VOL. 161—NO. 18 OCTOBER 28, 1961

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

Fire Chief N. L. Wheeler is shown using one of the 351 emergency reporting telephones located in Miami at every traffic light intersection. He plans to take trailer on tour to display the Florida city's emergency reporting telephone system. Also pictured is city manager Melvin Reese driving 1/3-scale model ladder truck. Story on system, page 19.

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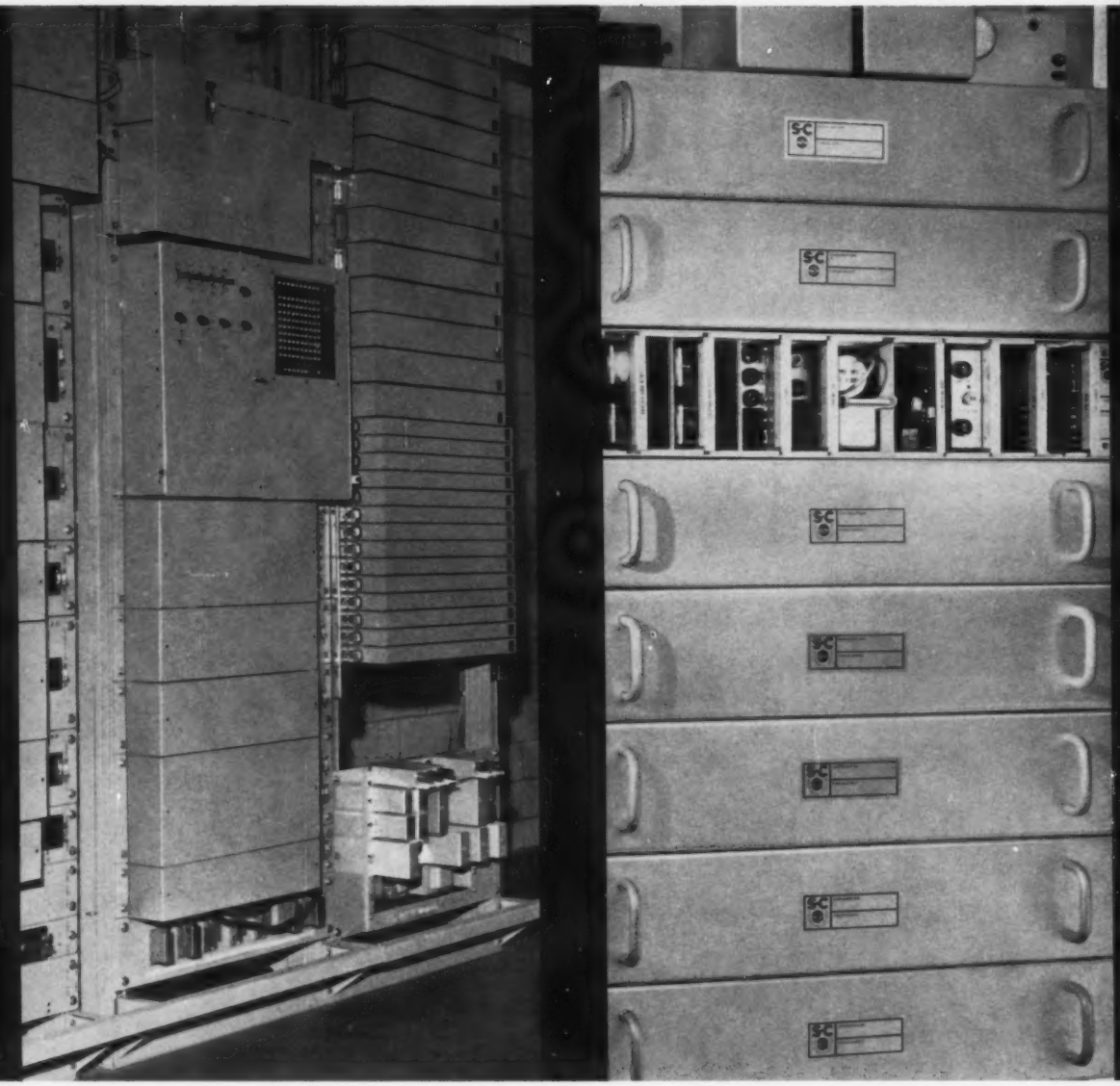

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FLASHES AND PLUGS

PRUNEFACE. The very self-important stuffed shirt executive came home from work one day more puffed up than ever.

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His wife, wanting to deflate his colossal ego, snapped: "So what? Vice presidents are a dime a dozen. The grocery store where I shop, for instance, has so many vice presidents, it even has one in charge of prunes."

The husband pretended to ignore his wife's remark, but it sorely bothered him. The next morning after he reached his office he decided to call the store to see if she was telling the truth.

He asked the switchboard operator for the vice president in charge of prunes.

"Packaged or bulk?" asked the operator.

•

WORD TO THE WISE. "I see you have your arm in a sling," said the inquisitive passenger to a fellow commuter. "Broken, isn't it?"

"Yes," responded the other passenger.

"Meet with an accident?"

"No; broke it while trying to pat myself on the back."

"Great Scott! What for?"

"For minding my own business."

•

OVERLOOKED, BUT NOT OVERLOOKING. Shortly before the garden party, the minister discovered that he had forgotten to send an invitation to an elderly lady parishioner, and he hastily telephoned her an invitation.

"It's too late," she answered, "I've already prayed for rain."

•

VOICELESS FINDS VOICE! In desperation, the husband telephoned:

"Doctor, my wife has lost her voice. What can I do about it?"

"Try coming home late some night," said the doctor.

•

ONE-WAY BLAST. "What kind of telephone is that on your desk?" a visitor is reported to have asked the premier of one of Russia's satellite states. "There's an earpiece, but no mouthpiece."

"If you must know," said the premier sadly, "that's our direct line to the Kremlin."

•

SUMMONS TO BLUSH. Waitress (just coming on duty):

"Your regular waitress was called away suddenly. Which of you gentlemen is supposed to receive the telephone call just before I bring the check?"

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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

1901 — 60 years — 1961

OCTOBER 28, 1961

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"Upkeep's proved negligible," continues Manager Scott. "Occasional soap-and-water washings. Our Alcoa booths discourage vandalism and won't need painting. These booths are built to withstand punishment. Besides, they're well-lighted at night.

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IN THE NATION'S CAPITAL

BY LAWRENCE J. HOGAN, WASHINGTON EDITOR
and President, Larry Hogan Associates,
Public Relations Firm.

Bell System and Western Union criticize FCC proposals on leased line rates. Space communications ad hoc committee reports to FCC. GSA planning telephone-teletype network for federal agencies.

NO ONE IS HAPPY over the FCC investigation of rates charged for leased teleprinter and telephoto facilities.

The Bell System criticized FCC's proposals which would result in a 19 per cent increase in the costs to press subscribers for leased lines, a 2.1 per cent increase for commercial users and a 7.8 per cent decrease for government users.

AT&T proposed instead that the commission authorize new teleprinter rates that would not result in jumps of more than 4 per cent for any class of customer. Its proposed rates would exclude most of the basic features of the FCC plan against which United Press International and the American Newspaper Publishers Association have filed strong protests. Bell opposed the FCC's proposal that teleprinter services not be leased for periods less than 24 hours per day, seven days per week, preferring to keep the eight-hour minimum and also retaining leases for supplemental services for periods shorter than eight hours. AT&T would also like to retain, in slightly modified fashion, the clock-hour schedules which offer lower rates during night hours.

UPI and ANP Intervenors. United Press International and the American Newspaper Publishers Association are the only press intervenors in the six-year FCC investigation of Bell and Western Union's leased services. The investigation has consumed 105 days of hearings and produced 10,000 pages of testimony and exhibits.

Bell's position in the controversy was outlined in two printed documents of nearly 150 pages responding to the FCC's initial decision in the case, which AT&T described as unrealistic, arbitrary and filled with fundamental errors. The report said that the commission's plan "sweeps all management judgment away and substitutes a slide-rule approach."

Western Union isn't happy either. The company asked for higher teleprinter rates than those prescribed and authorized by the FCC. Western Union charged that the FCC rates would reduce its revenue by $100,000 annually instead of increasing it by $668,000 as the commission estimated.

Western Union claimed that AT&T "has persistently rendered private line telegraph service at non-compensatory rates."

WU Asks Competition. Western Union's announcement further stated, "Patently, the non-competitive services of AT&T have been subsidizing the service competitive with those rendered by Western Union. Western Union seeks no charity from the commission. It seeks only its rightful opportunity to compete in the communications field on fair terms with AT&T, unhampered and unfettered by improper and, indeed, unlawful competitive practices of AT&T."

Blowing on the embers of disagreement, the American Newspaper Publishers Association filed objections to the FCC plan, charging that the proposed increased rates were "unjust and unreasonable and prejudicial to the public interest in the widest dissemination of news." The organization submitted statistics showing that six typical newspaper users (Salt Lake City *Tribune*, New York *Herald Tribune*, The Scripps-Howard newspapers, New York *Times*, Fairchild Publications and *The Wall Street Journal*) would experience cost increases ranging from 18 per cent to 154.4 per cent. Also included were data projecting an increase of 21 per cent for the Associated Press' news service and 13 per cent for its telephoto service.

The American Newspaper Publishers Association observed that the present rates give Bell and Western Union a return of 6 per cent "and this has not been shown to be unreasonable."

"The reasoning of the commission that this return must nevertheless be up to 6.4 per cent for Western Union and 7.3 per cent for AT&T largely at the expense of the press is puzzling," the ANPA said.

Many more pages will fill out the chapters in this rate issue before the book is closed.

Space Communications

The long-awaited report from the *ad hoc* space communications committee has been submitted to the FCC looking toward the formulation of a plan to set up a commercially feasible communications satellite system.

The day after President Kennedy issued his policy statement announcing that the communications system should be privately owned, the FCC authorized the international communications companies to develop a plan. The nine companies (formerly 10) proposed the establishment of a non-profit space satellite corporation which would start operating in 1964 and would offer full commercial service in 1965. The new corporation would perform the housekeeping chores for the system and member companies would share direct ownership of the satellites. Their profits would be derived from commercial telephone, telegraph and television communications broadcast over the world-wide network from the companies' individually owned ground stations.

New Corporate Entity. The proposal in the committee's report is similar to the joint venture which AT&T has been recommending all along. The new corporate entity, to be called the U. S. Satellite Corp., would presumably not be dominated by any one company because no firm would be given a majority on the board of directors.

The committee's recommendations, in summary, were as follows:

(1) Research, development and experimental trials should be expedited by government and industry and all resources drawn upon to establish the best communications satellite system at the earliest practicable time.

(2) A non-profit satellite corporation should be created to develop, construct, operate, manage and promote the use of communications satellites, for the United States' interests

therein, in accordance with the public interest objectives specified in the President's statement and the (FCC) Commission's Supplemental Notice—the satellite corporation to have three directors appointed by the President of the United States or by whomsoever he shall designate to make the appointments, two directors designated by each authorized participant in ownership of the satellites, and a director designed by the carriers which do not own but which may lease satellite facilities.

(3) The United States carriers which are authorized by the commission to provide communications services via satellites should be allowed to participate in joint ownership of the satellites and to include their investments in their rate bases for ratemaking purposes, so that rates would continue to be established as at present under regulation by the commission.

(4) Each United States carrier should be permitted to establish and operate its own ground stations, participate in joint ownership of ground stations with other carriers or rent capacity in other carriers' ground stations, and to obtain equitable access to and use of the ground stations and satellites, in accordance with public interest objectives set forth in the Supplemental Notice and as authorized by the commission.

(5) The commission should, expeditiously, take such further administrative action as may be necessary and proper in furtherance of the plan proposed herein.

The committee concludes its report as follows:

Financing Adequate. "We believe that this plan conforms to the public interest criteria specified by the President. . . . The policy of the Communications Act has been to encourage progress through a private enterprise communications system under government regulation in the public interest. The merits of this approach have been amply demonstrated over the years by the record of achievement attained by our communications industry in providing to the public a high quality of service at reasonable rates. This report and the carriers' responses . . . indicate that there will be adequate financial support to meet the expected United States portion of the capital requirements involved in the proposed plan."

Wisely, the report did not advocate a particular type of satellite and made no technical recommendations. These data will result from future research. It noted that one system being considered would describe an orbit 4,000 to 8,000 miles above the earth's poles and another would have an orbit 22,300 miles above the equator. It was estimated that, excluding the cost of ground installations and maintenance of satellites, the polar orbit system would cost 45 million dollars to 94 million dollars and would have a limited capacity. The equatorial orbit plan would cost about 150 million dollars.

WU Dissents. Western Union dissented from the majority report charging that the plan included no guarantee that space communications will not be dominated by "any one carrier"—obviously referring to AT&T.

Rep. Emanuel Celler, one of the most outspoken foes of a privately-owned satellite communications system, lost no time before he began throwing stones at the *ad hoc* committee's plans. He claims that the proposal does not guarantee against domination of the system by AT&T. Celler, who heads the House Anti-trust Sub-committee, urged FCC Chairman Newton Minow to reject the committee's plans.

The Brooklyn Democrat said in a letter to the FCC boss, "AT&T's power, potency and usage in the satellite system in relation to the other international carriers would afford it clear dominance."

Celler estimated that AT&T probably would provide 80 per cent of the capital and would no doubt account for 80 per cent of the system's use. Because of this, he said, even though Bell would have no more directors than any other large participating company, it would dominate the system and the directors could not prevent it.

FCC Has Open Mind. FCC Chairman Newton Minow has repeatedly said to congressional opponents of the plan that the commission has an open mind about ownership of the system, and the designation of the international communications carriers to work up the plan does not commit the government to accept the plan. Minow has said that the FCC might reverse itself and admit other companies to the combine, notably electronics manufacturers and domestic telephone companies and possibly even the general public.

As a matter of fact, the entire free-enterprise approach to space communications could be junked if President Kennedy becomes convinced that a government-owned system would get the program into orbit faster than the privately-owned system. He wants to beat the Russians to the punch and his decision to give the job to private industry was based on the premise that businessmen can do the job better and faster than bureaucrats. He has been under considerable pressure from liberal groups and from some close Capitol Hill allies to reverse his position.

What happens to the *ad hoc* committee's report now is a matter of speculation. The FCC has given interested parties until Nov. 13 to file their comments on the recommendations. (Originally, the commission set a deadline of 15 days, but upon a request from General Telephone & Electronics Corp., an extension was granted). Then FCC will hold hearings on the various aspects of the plan and on the committee's request for authority to form the non-profit corporation. No doubt several congressional committees will also want to get into the act.

A considerable amount of thoughtful effort was plowed into the report. The committee and its subcommittees held 75 meetings in two and one-half months to hammer out the plans. The report warrants a fair appraisal.

GSA Plans Teletype Network

The General Services Administration is setting up a Federal Telecommunications System (FTS), designed to link the federal agencies' 8,000 offices with direct-line telephones and 7,200 of them with interoffice teletype communication.

The GSA hopes that the nation-wide system will make the information from the files of one agency instantly available to other agencies as well as to field offices.

This electronic system is the project of Bernard Boutin, GSA's deputy administrator, and Robert F. Mundy, acting director of GSA's new Office of Telecommunications.

First Phase Launched. GSA reports that its intercity telephone traffic jumped from 80,000 minutes in July, 1958 to 365,000 in July, 1961. Federal agencies now pay nearly 100 million dollars per year for leased communications services.

The first phase of FTS was launched Sept. 25 with the opening of direct dialing on leased private lines between Washington and Boston. The agencies now have 9,500 operators, but with nation-wide extension of Direct Distance Dialing and continued consolidation of PBX boards, the number will dwindle to 2,000 within the next four years.

Telpak will further cut costs from $3.00 per mile per month for one telephone channel to 19 cents for a bundle of 240.

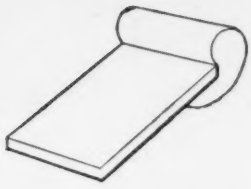
FTS plans to utilize Telpak throughout its entire system with plans to hook them up with three main switching centers. Routes will be charted to avoid possible target areas and spurs will be backtracked into those potential ground zero areas.

Backed by Radio. The agency will establish a "data network" for the Department of Labor, the Bureau of Public Roads, the Social Security Administration, the Internal Revenue Service and the Veterans Administration to handle traffic over leased lines during slack periods. The system will be backed up by a radio network for use during emergencies.

The new Federal Telecommunications System will eventually contract for all government communications services, with the aim of cutting the costs under the present arrangement where each agency contracts for these facilities independently. FTS will operate the system and represent the agencies before regulatory bodies.

Telephone companies can anticipate a loud voice from Uncle Sam at future rate case hearings.

The Plant Man's NOTEBOOK



By RAY BLAIN, Technical Editorial Director

THE Miami, Fla. Fire Department sent a ladder truck that is just one-third the size of the conventional type (see cover photo) to the Conference of the International Association of Fire Chiefs in Las Vegas last month. This small truck was constructed by firemen in off-duty hours from salvaged parts of planes, boats and cars. This truck was part of an exhibit used to popularize fire prevention and telephone emergency reporting.

The exhibit visited 42 cities on the Las Vegas trip. Miami's Fire Department isn't hoping to spark a trend to "compact" fire trucks; it does, however, hope that this mobile exhibit will make the public more conscious of fire prevention and other cities more aware of Miami's model emergency telephone reporting system.

Through the persistent efforts of Ben Demby, superintendent of the division of communications for the city of Miami, a procedure known as "The Emergency Telephone System" was installed in 1953. Since then, it has been closely studied and emulated by other fire departments throughout the United States and Canada.

The emergency telephone system was designed by superintendent Demby and developed by the Southern Bell Telephone & Telegraph Co. and the Bell System. It has proved to be a faster, more convenient method to provide efficient and economical emergency reporting. Miami has replaced all of its traditional-type alarm boxes with street telephones, expanding locations to include every street intersection having a traffic light.

The emergency telephone boxes are specially designed telephones minus dials, and each circuit connecting these telephones is under continuous supervision. They are installed and maintained by the local telephone company (Southern Bell). The 351 emergency telephones currently located throughout 34.19 miles of territory are connected direct to a central alarm office switchboard.

Although primarily intended for fire alarms, these street intersection telephones provide complete communications service for the citizens of Miami in reporting other types of emergencies. They are effectively used to report accidents, to call police, to request an ambulance or for any other purpose that deals with the saving of lives or protecting persons or property.

Mr. Demby holds the belief that fire departments should be alert for ways to reduce operating costs and the efforts wasted in chasing down false alarms.

"I am of the opinion that the emergency telephone offers a city far more protection from false alarms than the old type box where all you had to do was to pull the handle and then run," he says. "It takes a lot of courage to stand up to a telephone on a well-lighted street intersection and actually turn in a false alarm."

Street telephones installed in Miami have proved Mr. Demby's contention. During a 300-day comparison between the old box system and the present telephone system, false alarms dropped from 107 to four. Consequently, the number of pieces of fire apparatus dispatched on false alarms during the comparison period was reduced from 503 to 14. Although firemen can never hope for the total elimination of false alarms, during the period of comparison, only 3.1 per cent of alarms received over the telephone system were false as compared to 63 per cent received over the old box system.

By changing from a direct line to a concentrator-identifier-type system with concentrators in three telephone exchanges, the department has been able to make an annual saving of $18,000 in line mileage while providing unlimited capacity for calls.

When a street telephone is used, it activates a light on the alarm center switchboard and also on an 8-foot-square map of the city which gives the exact location of the alarm. All pertinent information is also recorded on paper tape, giving a third and permanent record.

Telephone reporting also enables the switchboard operator to determine the nature of the emergency and the type of equipment to dispatch. Calls to the police department are switched on two direct lines. Eight other lines are tied to the master municipal switchboard which can selectively switch calls to 1500 extension telephones located in all of the Miami and Dade County municipal offices. This feature enables the emergency telephones to serve another useful function. They give all city and county employes access to their offices from 351 street corner locations at no additional cost. Last year, a total of 218,669 calls were handled by the emergency switchboard, with the bulk of them non-emergency in nature.

The Miami division of communications has a standing order with the telephone company for immediate installation of emergency telephones at any location where a new traffic light may be located. Miami citizens are urged to remember the slogan "Wherever you see a traffic light, there you will find an emergency telephone box."

We have been a booster for emergency telephone reporting since observing the wonderful service it performed in our military cantonments during World War I. The Miami system proves that it is providing an even greater service in our present modern age.

Independent operating telephone companies will be well advised to make known to their city fathers this service that will mean so much to any community. Independent manufacturers can furnish the required equipment to provide all of the features that are presently proving so successful in Miami.

■

The General Telephone Co. of Indiana is placing signs in gold and black letters, "LOOK BEFORE BACKING UP", as indicated in the accompanying photograph, on all of its cars and trucks. These pressure-sensitive decals will be installed at the top of the windshield where they will be eye-catching and constant safety reminders for all company drivers.

Several accidents have occurred in the past due to drivers neglecting to check "behind the scene" as well as the front view prior to placing the car or truck in motion. The plant department people are hoping that this safety "accessory" will prevent both large and small mishaps.

Mayme Workman receives diamond wristwatch from C. C. Pearce on behalf of USITA, upon her retirement as executive secretary of ITPA.

Independent Pioneers Honor Mayme Workman

By R. C. RENO

INDEPENDENT telephone Pioneers took the occasion of their recent annual meeting to honor and pay tribute to Mayme Workman, their executive secretary-treasurer, who is retiring from that position on Dec. 31.

The meeting of the Independent Telephone Pioneer Association was held in Chicago on Oct. 9 during the convention of the United States Independent Telephone Association.

Mrs. Workman, who completed 54 years of service in the telephone industry in April of this year, most of which has been spent in the Independent segment, has been executive secretary-treasurer of the Pioneer association since 1947.

Under her guidance the association has grown in membership from 3,000 in 1947 to more than 5,400, and 10 Pioneer chapters have been organized.

Prior to her association with the Pioneer organization, Mrs. Workman was engaged in telephone traffic work. Her first job in the industry, in 1907, was switchboard operator for the old Inter-State Telephone & Telegraph Co. of Springfield, Ill. From 1909 to 1929, she was associated with the former Central Union Telephone Co., now the Illinois Bell Telephone Co. In 1929, she joined the Illinois Telephone Association as traffic supervisor, which position she held until 1947, when she assumed the Pioneer association post.

Mrs. Workman also has authored a traffic column for TELEPHONY since 1932, and for the past 18 years has served this magazine as traffic editor. She also has been a featured speaker at national and state telephone conventions and served on the USITA traffic committee for a number of years.

Among the resolutions adopted at the Pioneer meeting was the following one paying tribute to Mrs. Workman for her long service to the Independent industry and to the Pioneer association:

"WHEREAS, Our friend and associate, Mayme Workman, will retire as executive secretary and treasurer of the Independent Telephone Pioneer Association on December 31, 1961, and

"WHEREAS, She has for many years served this association and the telephone industry with integrity and distinction, and

"WHEREAS, She has, by the application of sound judgment and enduring effort, enhanced the services of this association to its members, therefore be it

"RESOLVED, That the membership of this association in annual meeting assembled, and each member individually, express their sincere appreciation for the many services which she has so graciously performed and for her counsel so generously given, and be it further

"RESOLVED, That this resolution be entered in the minutes of this membership meeting."

A framed parchment copy of the resolution was presented to Mrs. Workman.

Also, in recognition of Mrs. Workman's service and many contributions

Ray Blain (left), Pioneer association president-elect, presents certificate of appreciation to F. H. MacGougan of Monrovia, Cal., for his service as president of the association during the past year.

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STRAND SIZE (Also 5/8" 1/2" 9/32")	7/16"	3/8"	5/16"	1/4"	3/16"
WEIGHT PER 1000'	399 lb.	273 lb.	205 lb.	121 lb.	72.9 lb.
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ASTM A-122-54T					
Galvanized (Single Galv.) Common	5700	4250	3200	1900	1150
Class A (Double Galv.) Common	5700	4250	3200	1900	1150
Class A (Double Galv.) Siemens-Martin	9350	6950	5350	3150	1900
Class A (Double Galv.) High Strength	14500	10800	8000	4750	2850
Class A (Double Galv.) Extra High-Strength	20800	15400	11200	6650	3990
Class A Utilities Grade, A.T.&T. and Western Union Spec.—7-wires	18000	11500	6000*		2400**
ASTM A-363-55T (No welds)					
Weldless High-Strength	14500	10800	8000		
Weldless Extra High Strength	20800	15400	11200		

*Weight per 1000' —225 lbs. **Weight per 1000'—80.3 lbs.

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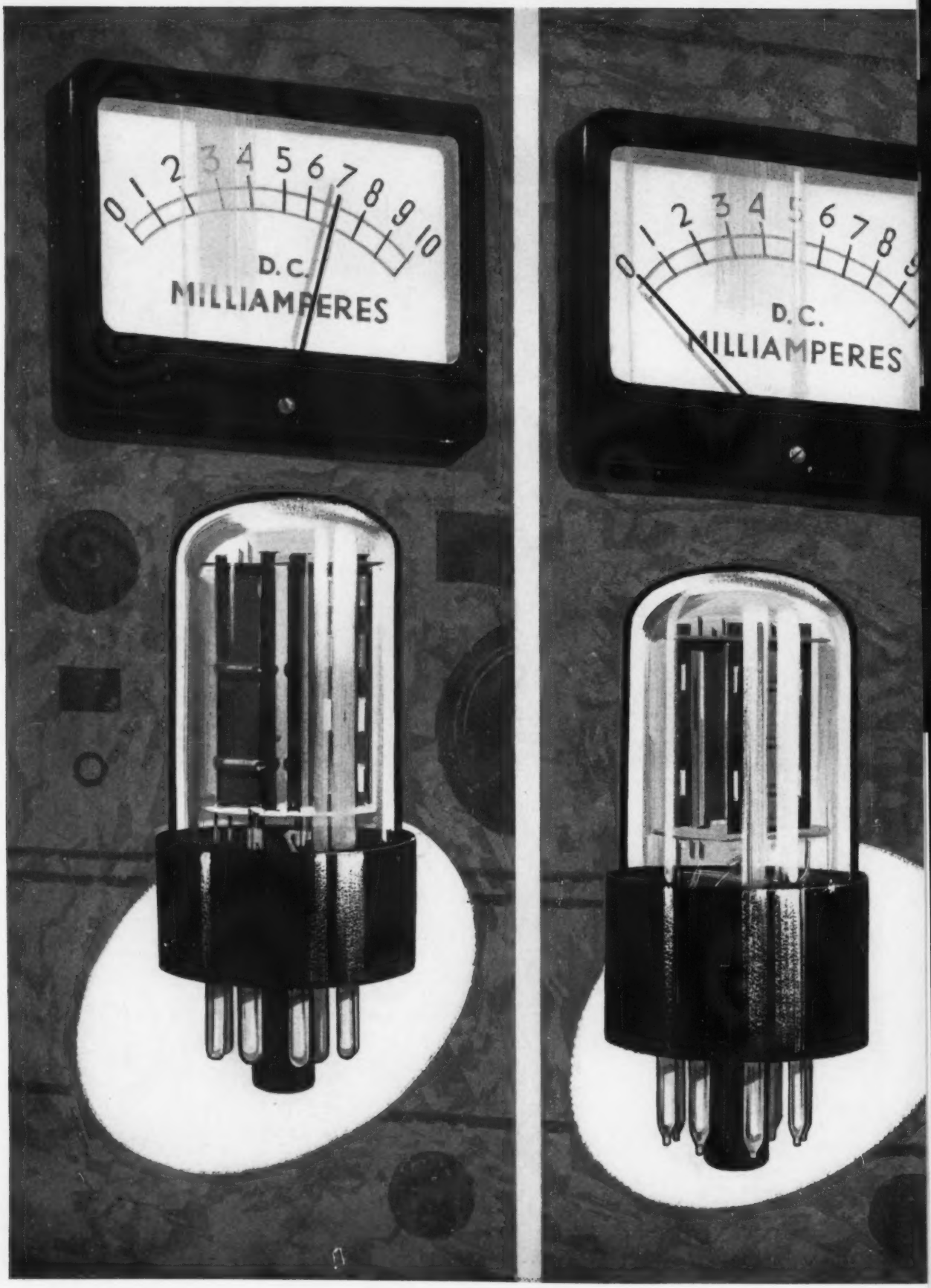
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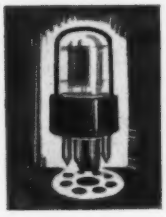
WHAT PRICE SERVICE?



...or the case of the tapered tube pins!

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As a case in point, take the 6SN7 and 6SL7 tubes used in some of our equipment. In 1960, the tube manufacturers changed from round to pointed base pins. Fine–except there was one unique difficulty. Since the round base pin type had been in service for a long time, replacement with pointed base pin tubes often resulted in high resistance contact. The tube socket contacts, which had spread slightly during the long life of the original tube, were not meeting the new pointed pins. So, we warned our customers, made special notes in our service manuals, and bought up thousands of the round-pin type so we could meet all field replacement requirements.

Possibly a small thing in itself, but if you take care of the small things, the big things take care of themselves–to *everyone's* benefit.

This is our way of reminding you that, when you buy Lenkurt microwave or carrier equipment, you also buy the experience, knowledge and personal attention of the entire Lenkurt Electric staff.

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Officers and directors of Independent Telephone Pioneer Association. Left to right: H. R. Bollinger of Waconia, Minn.; Bertha B. Blair of Ephrata, Pa.; C. E. McCormick of Erie, Pa.; Mayme Workman, retiring executive secretary-treasurer; F. H. MacGougan of Monrovia, Cal., immediate past president; Sophia K. Davis of Springfield, Ill., elected executive secretary-treasurer to succeed Mrs. Workman; and Ray Blain of Falls Church, Va., president-elect. Directors not present when photo was taken: Wesley H. Loomis III of Des Plaines, Ill.; F. G. Winters of Houston, Tex.; J. N. Johnson of Ft. Myers, Fla.; C. C. Pearce of Riceville, Ia.; and H. A. Barnhart of Rochester, Ind.

to the telephone industry, she received various gifts including a diamond wristwatch from the United States Independent Telephone Association, presented by C. C. Pearce, USITA president; $1,000 from the Pioneer association, presented by the association's president, F. H. MacGougan; a gold charm bracelet from the Pioneer association chapters and clubs (each were represented on an engraved charm) with a mounted 50-year Pioneer membership emblem.

In presenting the wristwatch to Mrs. Workman Mr. Pearce said:

"I want to assure Mayme that we are not here to bury her, not to praise her overmuch. I refuse to regard this as a last farewell or a final salute to Mrs. Workman. Although she is terminating her active career in telephony, I have a hunch we will be seeing her on occasions at telephone conventions and other places where people of our bent are apt to gather. Rather I prefer, and I know you prefer, to look upon this as an opportunity to tell Mayme how much we have benefited from her guidance and counsel down through the years, how much we have enjoyed her friendship, how much we have valued our associations with her, and how proud we are of the job she has done, and that we want to wish her many rewarding and happy years to come. . . .

"Mayme Workman literally grew up in the Independent telephone industry. I like to think of her not as a fine exponent of the art of telephony, but as a fine woman with a sense of social righteousness whose art of expression not only encompasses articulate oral expression but writing as well. Through her work with various companies during her career, through her articles in TELEPHONY, and subsequently through her activities as executive secretary of the Independent Telephone Pioneer Association, she has endeared herself to all of us.

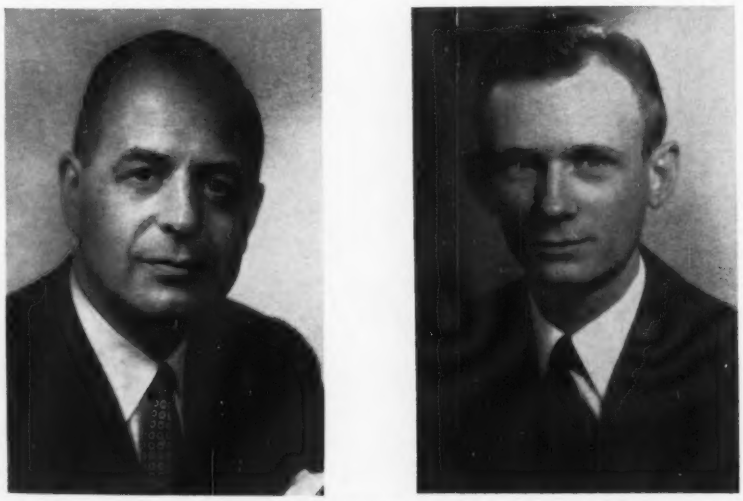
"Mayme Workman is more than a woman, more than a personality. She is an institution. Despite some hard, bruising contacts with the world, she has never developed the hard crust of cynicism or skepticism, rather she has remained a woman of tolerance and of sympathetic understanding. It also can be said, without any reflection on her vigor or strength of character, that she is a sweet person. . . ."

Following their meeting, the Pioneers greeted Mrs. Workman at a social hour held in her honor.

In her last official executive secretary's report, Mrs. Workman told the Pioneers that during the past year the association gained 274 members, making a total membership of 5,410.

She also reported that two new Independent Pioneer chapters were organized—The Sooner Chapter in Oklahoma, and the North Star Chapter in Minnesota and the Dakotas. Other chapters are located in Iowa, Indiana, Pennsylvania, Alaska, Ohio, Arkan-

(Continued on page 59)



Wesley H. Loomis III (left) and F. G. Winters, newly-elected directors of the Independent Telephone Pioneer Association.

TELEPHONY'S ELECTRONICS SECTION

BY PAUL E. MURPHY, ELECTRONICS EDITOR

MOBILE RADIO

OVER THE PAST decade the use of 150-megacycle mobile radio-telephone service has grown at a rapid rate until today interference between the various users of this service has become alarming.

As a result of the numerous applications for radio-telephone service within this band, the FCC has been required to somehow allocate new channels. In order to conserve on the frequency spectrum, the present 30-kilocycle-spaced channels will be reduced to 15 kilocycles. How will such an assignment affect present-day service?

A paper presented by Max A. Peckhart of the Communications Division, Motorola Inc., at the recently held Western Electronic Show and Convention (WESCON) in San Francisco, Cal., discussed many considerations of this new split-channel operation.

The basic considerations discussed evolved about the adequacy of technical standards of narrow-band operation for the newly proposed 15-kilocycle band, the limitation of the state of the art imposed on this narrow-band operation, and what limitations must necessarily be imposed on design of narrow-band radio systems design in order to achieve maximum usage.

In discussing the technical standards of transmitting and receiving equipment, Mr. Peckhart stated that the tolerance of the transmitter carrier frequency becomes even more critical with narrow-band techniques insofar as excessive deviations will often create degradation of systems in which they're associated as well as effect interference on adjacent channel operation. In a similar manner, he also stated, the proper adjustment of modulation limiting and modulation levels is necessary in order to greatly reduce excessive splatter into adjacent channels and that certain circuitry such as low-pass post-limiter filters become of even greater importance in reducing these same effects.

In reviewing considerations of the state of the art, Mr. Peckhart discussed the fundamental aspect of modulation and the resulting sidebands. He said:

"When an FM transmitter is modulated, modulation sidebands are produced and they are spread on either side of the carrier frequency. Some of these sidebands fall within the pass band of the adjacent channels, 15 kc away. The present known state of the art has nothing to offer to eliminate or even significantly reduce the energy contained in these sidebands."

Much of the energy contained in these sidebands will become a source of interference within a system operating in adjacent channels. Such effects must be reckoned with by the adjacent users and must be sufficiently overcome before satisfactory communications on adjacent channels can be realized.

Mr. Peckhart discussed a laboratory experiment which was designed to evaluate the effects of the modulation sidebands. Shown in Fig. 1 is the block diagram of the test setup upon which Mr. Peckhart has based his evaluation tests.

As indicated by Fig. 1, transmitting and receiving equipment was described as being enclosed in separate screen rooms isolated from external effects and from each other.

Prior to performing various measurements, the following adjustments were described as having been pursued.

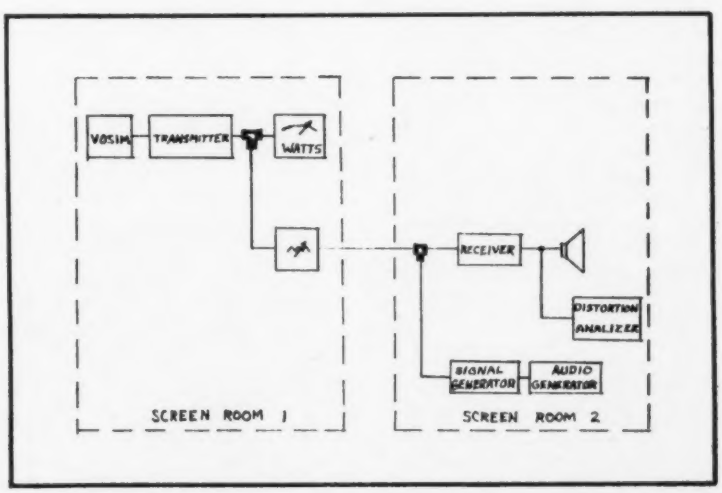


Fig. 1. Test setup for measuring transmitter modulation sideband effects on 15-Kc-spaced channels.

"The transmitter carrier frequency was set 15 kc from the receiver frequency, and modulated with a device for simulating average voice modulation with a pulsed noise spectrum. This device is called VOSIM. The peak deviation was set to ±5 kc.

"The output of this transmitter was attenuated and combined with the output of a signal generator set to the receiver frequency. The generator was modulated with a 1000-cycle tone and the deviation was set to ±3.3 kc.

"A distortion analyzer was connected to the audio output of the receiver, and used to measure the degradation in SINAD. (SINAD= signal + noise + distortion/noise + distortion.)

"As is to be noted, a loudspeaker was also connected at the output. This component was used to detect the presence of audible interference.

"The amount of undesired signal (from the transmitter) required to degrade the SINAD by discrete amounts was measured with various levels of the desired signal (from the generator)."

Mr. Peckhart's record of the measurements is shown in Fig. 2. The results indicate, as was pointed out, that whereas the desired signal is to be 1 microvolt (0 db), an undesired signal of approximately 36 db above 1 microvolt will degrade the SINAD by 5 db. Tests also indicated that the undesired signal by reaching 39 db above 1 microvolt will effect a SINAD reduction of 10 db.

It was brought out that degradation in SINAD of 1 db produces little, if any, change in audio in the output of the receiver, while reduction of 10 db in the SINAD destroys intelligibility of the desired signal modulation.

"Thus," Mr. Peckhart says, "only about 36 db protection can be achieved before audible interference results from an adjacent system spaced 15 kc away."

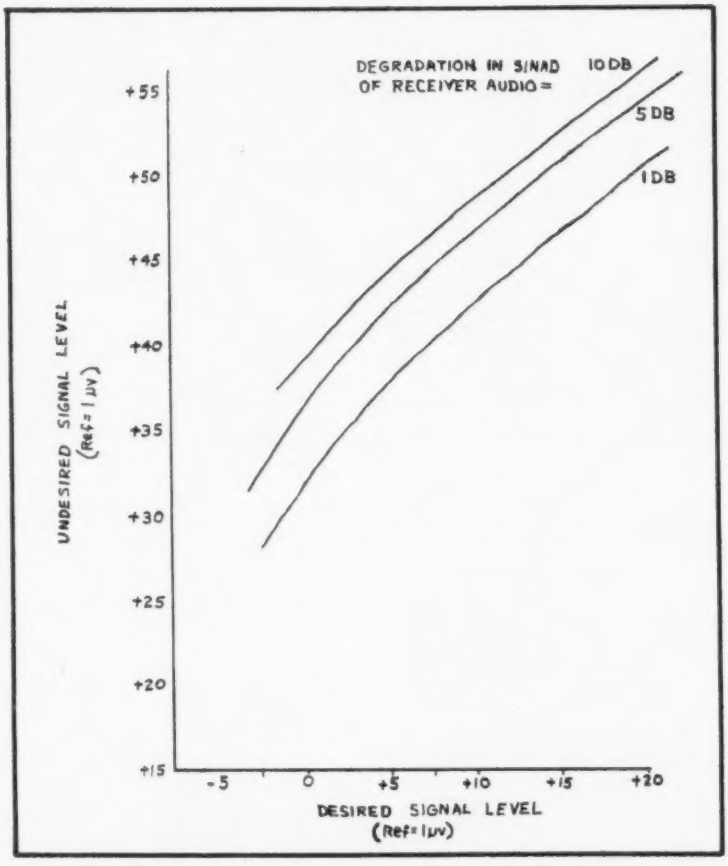


Fig. 2. SINAD degradation of audio recovered from desired signal by 15-Kc-spaced undesired signal.

Using this information as a basis for further discussion, a hypothetical system was considered. Assumptions were made as follows:

	Desired Mobile	Desired Base Station	Undesired Base Station
Transmitter Power	25 W	60 W	60 W
Effective Receiver Sensitivity	1 UV	1 UV	1 UV
Lines and Miscellaneous Losses	3 db	3 db	3 db
Gain During Transmission	+148 db	+152 db	+152 db
Effective Output Height	6 ft.	150 ft.	150 ft.

From a paper presented by Kenneth Bullington, "Radio Propagation at Frequencies Above 30 Megacycles" (Proc. I.R.E., Vol. 35, pp. 1122-1136, Oct. 1947), based upon smooth earth losses in propagation, the usable two-way range in communication will be approximately 25 miles without interference.

Mr. Peckhart then discussed and illustrated limitations on the effective communications range with interfering adjacent transmitters under assumed conditions of transmitted power, receiver sensitivity, etc. Data taken from measurements made on actual equipment is combined with system studies computed above. In his illustrations, a 5 db reduction in SINAD of audio was used as the basis of analysis.

The effect on talk-out range that an undesired base station has on a desired mobile was plotted and is illustrated in Fig. 3. As is noted, the closer a mobile unit is to its desired base station, the closer it can be to the undesired base station before audible interference results.

Mr. Peckhart, in concluding, expressed that proper geographical separation between adjacent channel users must be effected in order to provide relief of present congestion.

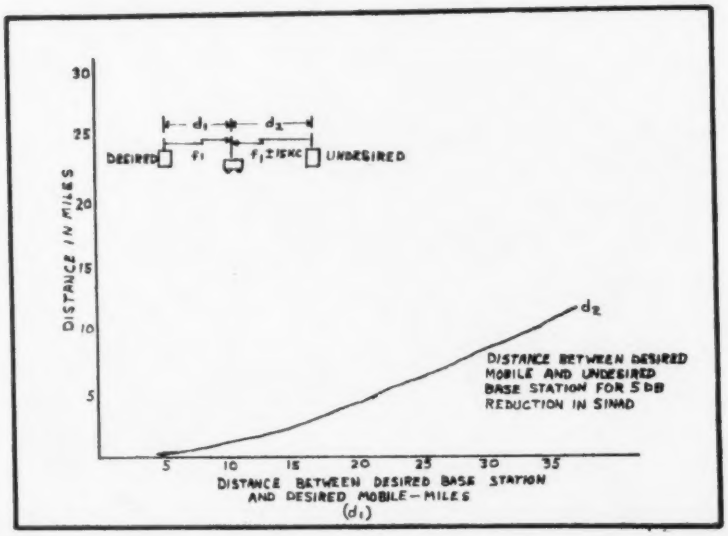


Fig. 3. Relationship of distance between mobile to desired base station vs. mobile to undesired base station that produce 5 db SINAD reduction.

TEST EQUIPMENT

ELECTRONIC Instrument Co., Inc., Long Island City, N. Y., has announced the development of a new direct current power source that delivers 6 and 12 volts dc for servicing transistorized equipment or other equipments requiring low power for operation.

The new device, Model #1064, provides extra-low-ripple output which is achieved through the use of special L-C filter circuit design consisting of a heavy-duty iron core choke and a dual capacitor of 5000 mf 20 volts of electrolytic design, it was reported.

EICO Model 1064 battery eliminator and charger.

Specifications include: "DC output voltage ranges: (ranges selected by 6V-12V toggle switch) 0-8 volts, 0-16 volts. Current ratings: 0-8 volt range: 10 amps continuous, 20 amps intermittent; 0-16 volt range: 6 amps continuous, 10 amps intermittent." Operation is from 105-125 volts ac, 50/60 cps; 150 watts.

The Model 1064 battery eliminator and charger is available fully wired and tested or in kit form.

SATELLITE CONCEPTS

IN A PAPER delivered by W. A. Runge at the recently held Seventh National Communications Symposium, requirements for stationary satellite communications were discussed.

The problem encountered in such a system is that there will be an echo to the user of his own voice of about .6 second, Mr. Runge explained.

At the Palo Alto, Cal. speech-processing laboratory of ITT Federal Laboratories Division of International Telephone & Telegraph Corp., where Mr. Runge is an engineer, certain subjective type tests were performed so as to determine the effect of such a delayed echo upon the user.

Studies indicated that an echo delay of .6 second was acceptable to a majority of the users of a two-way telephone circuit when the intensity of the echo was reduced to 25 db (decibels) below the input speech level, Mr. Runge explained.

Another paper was presented by H. P. Hutchinson, of International Telephone & Telegraph Communications systems, a division of the ITT corporation, which discussed a new concept in the field of satellite communications.

Mr. Hutchinson pointed out that while under normal operating conditions a multi-channel satellite communications system will relay possibly hundreds of simultaneous telephone conversations without problems and with satisfactory transmission, under abnormal conditions a similar system may suffer from the effects of fortuitous interference and intentional jamming, or variations from an intended orbit.

Mr. Hutchinson envisioned a system that, under the conditions of abnormality, would reduce the multi-channel capacity by intentionally dropping many of the working channels to provide an improvement for those channels remaining in service. The system would thus, as Mr. Hutchinson discussed, provide more effective usage by maintaining suitable transmission on those remaining channels, which may be used for high-priority traffic.

"Greater communication reliability is thereby provided even under the most severe conditions," he said.

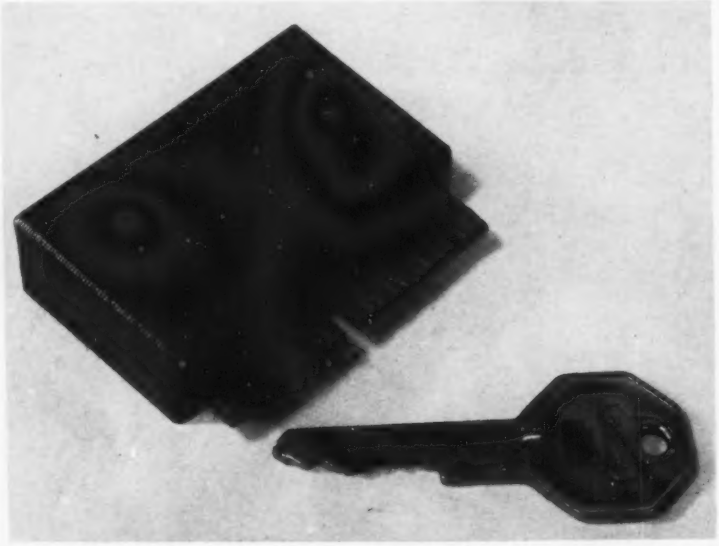
NEW TECHNIQUES IN DATA ERROR REDUCTION

A NEW DEVICE known as Decision Threshold Computer has recently been patented and may find widespread application on high frequency frequency-shift-keyed communication circuits by reducing transmission errors of telegraph and binary data.

The new device, invented by Elmer Thomas of Page Communications Engineers, Inc., is said to be an inexpensive device which has provided up to a 30-fold reduction in error rates of telegraph and binary data transmission.

It was explained that where ordinary conventional methods have resulted in high error liability with occurring fades on either the mark and space frequencies, the new technique provides for reduced error rates unless fading is simultaneous on both frequencies.

It was also explained that the Decision Threshold Computer will provide some degree of protection where only one of two frequencies is available in the event of interference or jamming. Information which might have been lost may otherwise be recovered.



The Decision Threshold Computer is presently being used on the NATO and Pacific Scatter Communications systems to reduce the error rate of telegraph and binary data. The device was invented in the research and development laboratory of Page Communications Engineers, Inc.

COMB-FILTER SPECTROGRAPHIC SYSTEM

ITEK Electro-Products Co. will design and manufacture two comb-filter spectrographic systems for the American Telephone & Telegraph Co. space communications program, it has been announced by Samuel P. Card of the Itek company.

The comb-filter systems will be installed in the Rumford, Me. ground station and will be used to detect the tracking beacon of the first commercial communications satellite proposed to be launched in April, 1962, and its successors. The systems, Itek reports, will survey a frequency spectrum supplied by a receiver, detect any Doppler returns, and identify their frequency within a few cycles.

Itek will supply the precision narrow-band crystal filters and the detector, threshold, post-detection, and amplifier circuits for the 300 channels used in the Bell Lab equipment.

Comb-filter spectrographic systems, related to those for the Bell Labs system, were previously designed by Itek, the company states, for the Navy Space Surveillance Program, the Prince Albert Radar System at Millstone Hill, and the Vanguard Program.

Itek Electro-Products Co. was formed in 1960 with several divisions of Hermes Electronics Co. as its nucleus.

SATELLITE INTERFERENCE MEASURING

ARMOUR Research Foundation of Illinois Institute of Technology has been awarded a contract to develop instrumentation for measuring man-made microwave frequency interference that possibly would be encountered by space vehicles and communication satellites, it was recently announced.

Dr. Haldon A. Leedy, director, stated that the foundation's invention will become a part of a satellite of the future for measuring microwave frequency interference which will assist in selecting various frequency bands for future space communications and electronics systems.

Mr. Leedy explained that the program is aimed at providing manned satellites and space vehicles with reliable and safe communications-electronics equipment under environments of adverse frequency interference. Such man-made interference has been created by such equipments as high-powered radars that transmit considerable energy into outer space.

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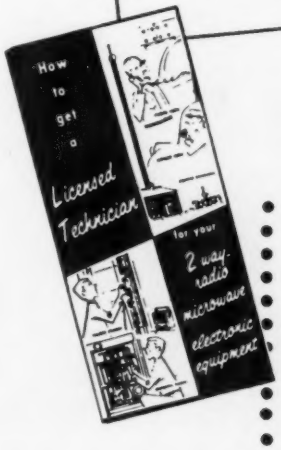

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Hurricane Carla Takes Heavy Telephone Toll

Storm affects over 209,000 telephones, Bell and Independent, but service restored quickly

HURRICANE CARLA, the most devastating storm of recent times, battered 300 miles of Texas gulf coast, putting more than 209,000 telephones in the hurricane area out of service. However, service was generally restored in record time.

The Texas Telephone Association reports communications storm damage as follows:

52 Independent company exchanges and 17 Southwestern Bell Telephone Co. exchanges isolated.

1,472 long distance poles down.

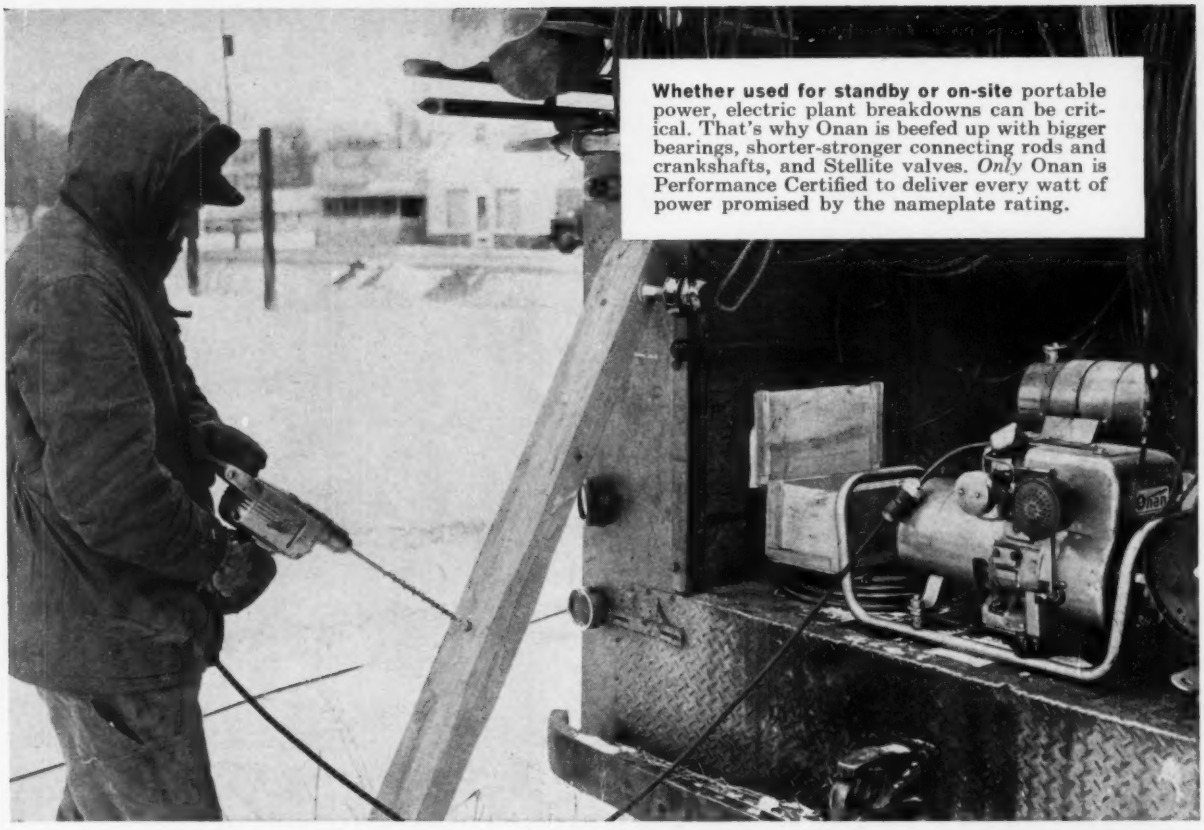
1,225 local cables slashed by trees, debris, fallen power cables.

21,840 drop wires downed in storm area.

Southwestern Bell's Damages

The Southwestern Bell Telephone Co. said that although the hurricane caused 6½ million dollars in plant damages to the company, up and down

Telephone equipment and employes from all over Southwestern Bell Telephone Co's territory were rushed by train, plane and truck convoy to the stricken Gulf Coast area to help restore service. Carla did 6½ million dollars worth of plant damage to the company, but failed to destroy communications.



Whether used for standby or on-site portable power, electric plant breakdowns can be critical. That's why Onan is beefed up with bigger bearings, shorter-stronger connecting rods and crankshafts, and Stellite valves. *Only* Onan is Performance Certified to deliver every watt of power promised by the nameplate rating.

Only Onan is certified to give you all the power promised by its nameplate

It's a fact that many electric plants on the market today do not deliver the output promised by their nameplate rating.

Every Onan plant is given a rugged workout *under full load* before it is shipped—*your assurance* that the Onan you buy is ready for hard work the day you get it.

But this isn't enough. Independent laboratory inspectors pull surprise inspections to double-check our tests and testing methods. They pull a plant off the line, run it, stop it, load it, overload it, check and recheck. Their torture test gives positive proof of Onan's quality. End result: *Onan's exclusive Performance Certification* . . . your assurance of getting every watt of power you pay for.

So when you're tempted by an electric plant "bargain," make sure its nameplate rating is not "inflated." Be sure you're getting full measure for your money. Remember, *the electric plant that shortchanges you in power output is no bargain at any price!* Only Onan is Performance Certified to deliver everything the nameplate promises.

See Onan electric plants soon. Compare before you buy. You'll find your Onan distributor listed in the Yellow Pages. Call him or write direct.

PERFORMANCE CERTIFIED
We certify that when properly installed and operated this Onan electric plant will deliver the full power and the voltage and frequency regulation promised by its nameplate and published specifications. This plant has undergone several hours of running-in and testing under realistic load conditions, in accordance with procedures certified by an independent testing laboratory.
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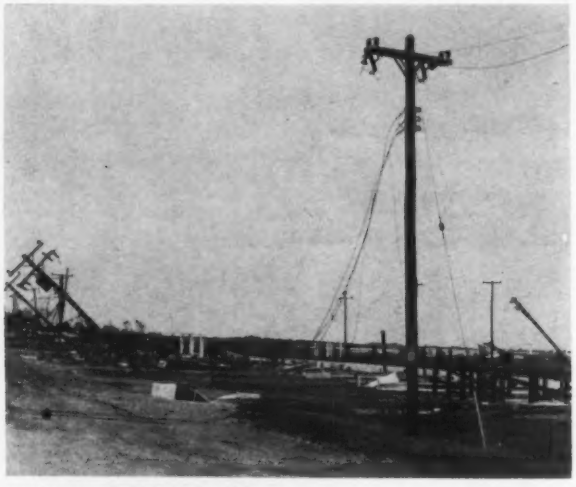
ONAN Division, Studebaker-Packard Corporation, 2611 University Ave. S. E., Minneapolis 14, Minn.

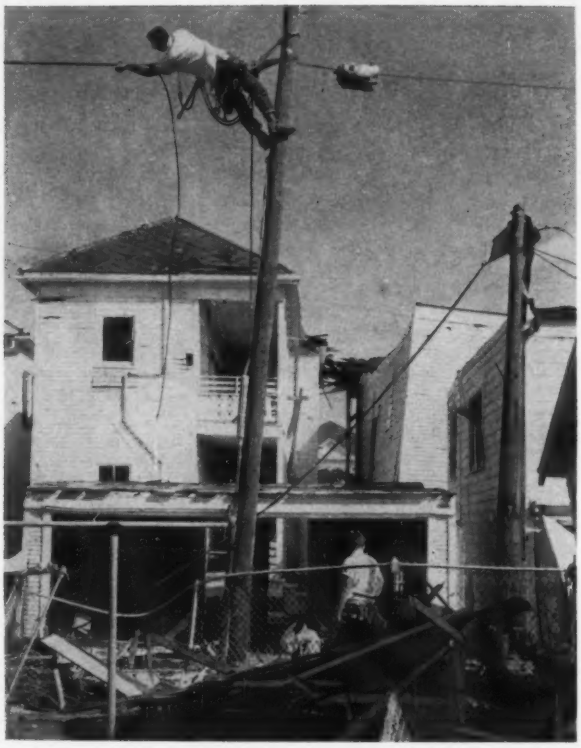
the Texas coast and as far inland as Austin, the storm failed to destroy communications.

Galveston—an island city ripped by hurricane winds and soaked by the rising Gulf—suffered a double damage dose when a tornado hit on the day following Carla's visit. Despite this, Galveston never lost its long distance service.

The Freeport telephone office was evacuated for 39 hours, along with the rest of the city, because of threatening high waters. But when Wire Chief J. C. Williamson and his men—who had left on Sunday Sept. 10 on orders from their boss and from the National Guard—returned on Tuesday, Sept. 12, the equipment had not been damaged. Power was off, but they turned on an emergency generator and service was restored.

TOP PHOTO: This General Telephone Co. of the Southwest line along the Palacios Bay front was badly damaged by Carla.
BOTTOM PHOTO: General of the Southwest's new Port O'Connor, Tex., building after the storm struck. The roof of this new building is resting on a charger and one corner. Central office batteries and switching equipment were toppled because the equipment was still uninstalled when Carla hit.





Carla-weary Southwestern Bell men rushed to restoral job in Galveston, Tex. after a tornado followed the hurricane with a destructive punch.

Telephone communications helped Civil Defense, Red Cross, Salvation Army, police and other agencies throughout the height of the storm.

Foresight Paid Off

W. L. Lindholm, South Texas general manager for Southwestern Bell, made this observation on why his company's facilities remained operable:

"Foresight is the answer. Southwestern Bell has been quietly storm-proofing its local and long distance facilities for a number of years. New exchange buildings built along the coastal area are designed to withstand the gale force winds. Many have their own emergency diesel generators built into them. Open wire circuits have largely been replaced by modern telephone cable. Cables are under pressure to keep moisture out. Microwave routes channel telephone messages between the major cities, and within the cities, underground cable is safe from storm damage.

"Despite the high water along the coast and in low-lying sectors of scores of cities, there was not one case of trouble on underground cable. Proof of the careful planning that goes into the construction of our buildings is the fact that not one of them was damaged by water.

True to Tradition

"Most important, telephone people

(Continued on page 38)

Each person in your area has specific telephone needs. To meet the needs of different customers, you must provide many types of phones—standard and special. Why? Because it's profitable! The customer who wants a special phone pays extra for the extra service.

Different people want different phones

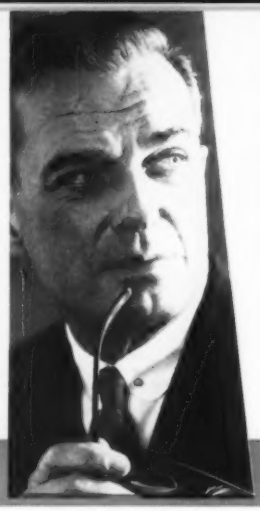
Here—and on the following pages—are shown 12 of our most popular telephone instruments. Only AE offers you such a wide choice of phones.

TYPE 80 DESK PHONE
Classic desk model features famous "walking handset." Handset "walks" into cradle when replaced, avoids off-hook trouble. Special hooklock makes installation easy. Choice of 10 colors.

TYPE 90 WALL PHONE
A space-saver with narrow profile design. Special-angle dial is easy to use. Side-mounted handset can't be brushed off hook. Simple installation and maintenance. Choice of 10 colors.

AUTOMATIC ELECTRIC
Subsidiary of
GENERAL TELEPHONE & ELECTRONICS

GENERAL SYSTEM



AE

CALL COMMANDER® PHONE
Key system service for up to 17 outside, PBX, or private lines. Pushbuttons light to serve as line signals. Intercom and conference features, too.

TYPE 86 PHONE
Key telephone provides switchboard convenience for small commercial subscribers. Up to six central office, PBX, or private lines. Dial or pushbutton intercom service. Choice of 6 colors.

TYPE 85-C DESK PHONE
For two-line pick-up, signaling and extension exclusion. Ideal for nurse, receptionist, secretary. Simple turn button switches from one line to another. Choice of 6 colors.

SPEAKERPHONE/Executive Model
New gain switching eliminates feedback, singing and other bothersome distortions. Your customer gets the same high quality transmission with loudspeaker or handset. Choice of 6 colors.

Makes a phone for every customer need!

SOUND-BOOSTER* PHONE
For the hard-of-hearing. Built-in amplifier lets user boost incoming signal up to six times its volume at the turn of a knob. Choice of 10 colors.

STARLITE* PHONE
The answer to a modern homemaker's dream. This compact phone is half the size of a regular phone. Choice of six colors. Dial light can be turned from soft to bright or completely off, anytime.

TYPE 87 PHONE
For the small office. Three lines with hold feature on each line. Lighted button indicates incoming call. Signal button may be used for secretarial buzzing. Extension exclusion is optional. 6 colors.

SPACE-MAKER® PHONE
Practical extension fits anywhere in the home. The dial tilts up to 45 degrees and rotates 360 degrees. Hookswitch swings from side to side in 180-degree arc. Choice of 10 colors.

*Trademark of Automatic Electric Company

OUTDOOR PHONE
A must for loading docks, cab stands, lumber yards, etc. Regardless of the weather, this phone performs with indoor dependability. Locking door limits use, prevents abuse.

HAZARDOUS LOCATION PHONE
Safe service in dangerous atmospheres. For use in oil refineries, gas plants, laboratories, etc. Sealed housing contains explosions, encloses all components that might produce sparks.

Meet the needs of your customers!

Are there any new subscribers in your area? Any old ones with new telephone needs? If so, show them the AE phone best suited to their particular needs. Contact your AE representative. He'll be glad to give you further details. Just write Automatic Electric Sales Corporation, Northlake, Illinois.

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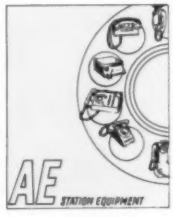
GENERAL SYSTEM



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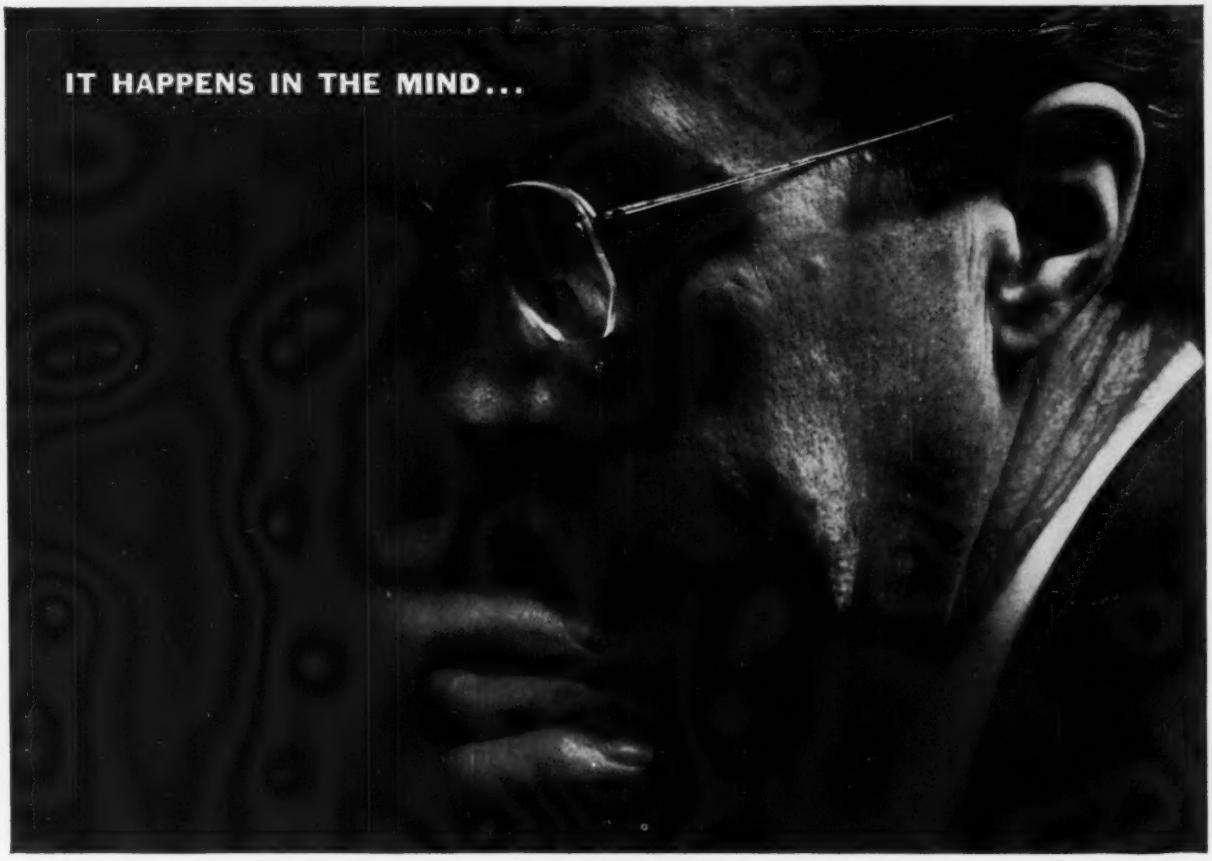
At Bell Telephone Laboratories, mathematician Sidney Darlington has contributed notably in developing the art of circuit analysis.



. . . It is essentially a thing of the mind for it works through concepts, symbols and relationships . . . it helps man to analyze and synthesize the complex phenomena of the universe and himself . . . it works in many ways to advance electrical communications:

IT IS CALLED MATHEMATICS

At Bell Telephone Laboratories mathematics works powerfully to solve problems involving complex data. For example, engineers must design and synthesize complex systems to process specific signals in precisely controlled ways. At the same time the technology provides a wide choice of circuits and components. Mathematical circuit analysis reveals the circuits which can do the job most efficiently and economically.

Intriguingly, too, the mathematical approach leads to basically new knowledge. For example, it led to the invention of the electric wave filter . . . disclosed a kind of wave transmission which may some day carry huge amounts of information in waveguide systems . . . foretold the feasibility of modern quality control . . . led to a scientific technique for determining how many circuits must be provided for good service without having costly equipment lie idle.

In the continuing creation of new devices, technologies and systems, Bell Laboratories utilizes whatever serves best—mathematical analysis, laboratory experimentation, simulation with electronic computers. Together they assure the economical advancement of all Bell System communications services.

BELL TELEPHONE LABORATORIES

WORLD CENTER OF COMMUNICATIONS RESEARCH AND DEVELOPMENT

met the test. They were true to their tradition. Hundreds worked on without knowledge of their own families and without knowing what had happened to their property. All the planning, all the foresight, all our skill would have meant nothing without the devotion of telephone people."

Southwestern Bell was planning the big restoration job before Carla made her devastating sweep across the Texas coast.

An emergency restoration force of more than 1,000 telephone people from Arkansas, Oklahoma, Missouri, Kansas and North Texas had volunteered to rush to the storm area to help their 13,000 co-workers from south Texas.

Supplies and equipment had been sent by the company and by Western Electric's Houston distributing house to coastal cities where the storm was expected to hit.

This planning paid off in fast restoration of telephone service. Although the storm knocked out more than 166,000 Southwestern Bell telephones in scores of cities and towns, almost all were back in service within a week.

Storm's Toll

The mighty storm put 1,200 toll circuits out of service and caused more than 4,800 exchange cable troubles. Hurricane winds toppled 1,600 poles. There were 17 Southwestern Bell exchanges isolated at the storm's peak. There were more than 72,000 telephones silenced by Carla in the Houston area. Other hard-hit cities served by Southwestern Bell included Galveston, Texas City, Freeport, Corpus Christi and Victoria. But Hurricane Carla left her calling card of destruction all the way from Port Arthur to Brownsville and hundreds of miles inland.

On Sept. 12—the day after Carla struck—special trains carrying more than 460 repairmen and equipment were rolling toward south Texas from St. Louis, Little Rock, Topeka and Wichita. On that same Tuesday, another 60 repairmen flew on a chartered plane from Kansas City to Houston.

Truck convoys brought more than 400 Oklahoma and north Texas telephone men into the damaged areas.

From north Texas and Arkansas, 200 traffic people rushed to south Texas to relieve regular operators who had spent long hours handling record volumes of calls.

In south Texas, accounting, commercial and administrative employes helped man long distance switchboards and made arrangements for out-of-state restoration forces moving into the stricken area.

Advance Planning

Western Electric's Houston distributing house began moving supplies up and down the coast that Saturday, when it became apparent the storm would hit. Working around the clock, they took less than a week to ship such large quantities of vital equipment as 91 miles of exchange cable, 398 miles of drop wire, 7,000 telephone instruments, 1,800 cable terminals, 1,800 lead sleeves, 8,800 dry batteries, nine switchboards, 45 power plants and several teletype machines.

Emergency generators were flown into the damaged locations on Sept. 12 from Southwestern Bell offices in five states.

Tales of Courage

Telephone people wrote many stories of heroism during the storm. Among them:

Galveston plant men volunteered to leave the safety of the telephone building to do rescue work when a tornado struck shortly after the hurricane moved across the coast. Galveston repairmen braved the hurricane winds and water to keep communications working in the city's hospitals.

In Texas City, Galveston, Freeport and other cities, operators stayed at the long distance switchboards although they knew their families were being forced to evacuate and their homes were being damaged. Mrs. Joe Ann Ressler, Texas City operator, was one of these. She stayed on the job although she had learned water was up to the roof of her home and her family had fled to an inland city.

At Freeport, Chief Operator Carrie Owen stayed in the operating room although the rising Gulf threatened the telephone office. She left only when ordered to do so by her supervisor.

At Victoria, Linemen S. O. Stenberg and J. T. Rossman, who had come to the storm area from San Antonio, worked atop poles in hurricane winds to restore telephone service for Citizens Memorial Hospital.

The storm also brought its lighter moments. One of the last Houston telephones put back in service was in the home of K. E. Farman. He said he really didn't need his home telephone, anyway—as division maintenance supervisor he was too busy directing Houston restoration work.

General Telephone Co.

Damages to General Telephone Co. of the Southwest's installations inflicted by Hurricane Carla have been estimated at between $500,000 and $600,000.

Approximately 40,000 telephones in more than 60 communities, were lost at the peak of the storm.

Carla's eye passed directly over the Port Lavaca-Port O'Connor-Palacios exchange areas of General's operations on the mid-Texas gulf coast.

Heavy damage was suffered at Port Lavaca and Palacios, and the Port O'Connor CDO was under water. A new building nearby which housed uninstalled equipment was toppled by the force of Carla at Port O'Connor. The equipment inside was scattered as if a giant bomb had blasted the new

(Continued on page 58)

Carla Sends Paystation on Journey

Charles Hendrix, owner of the Brazoria (Tex.) Telephone Co., displays paystation which was a casualty of Hurricane Carla. The instrument was carried up the Brazos River to Brazoria from Freeport, Tex. a distance of 14 miles.

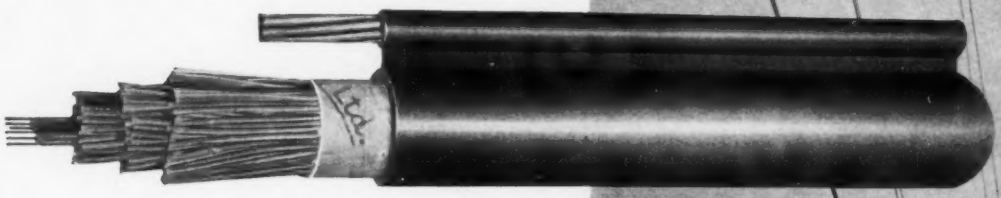
It was recovered by a fisherman in Brazoria who was at Churchill Bridge when it floated against his boat.

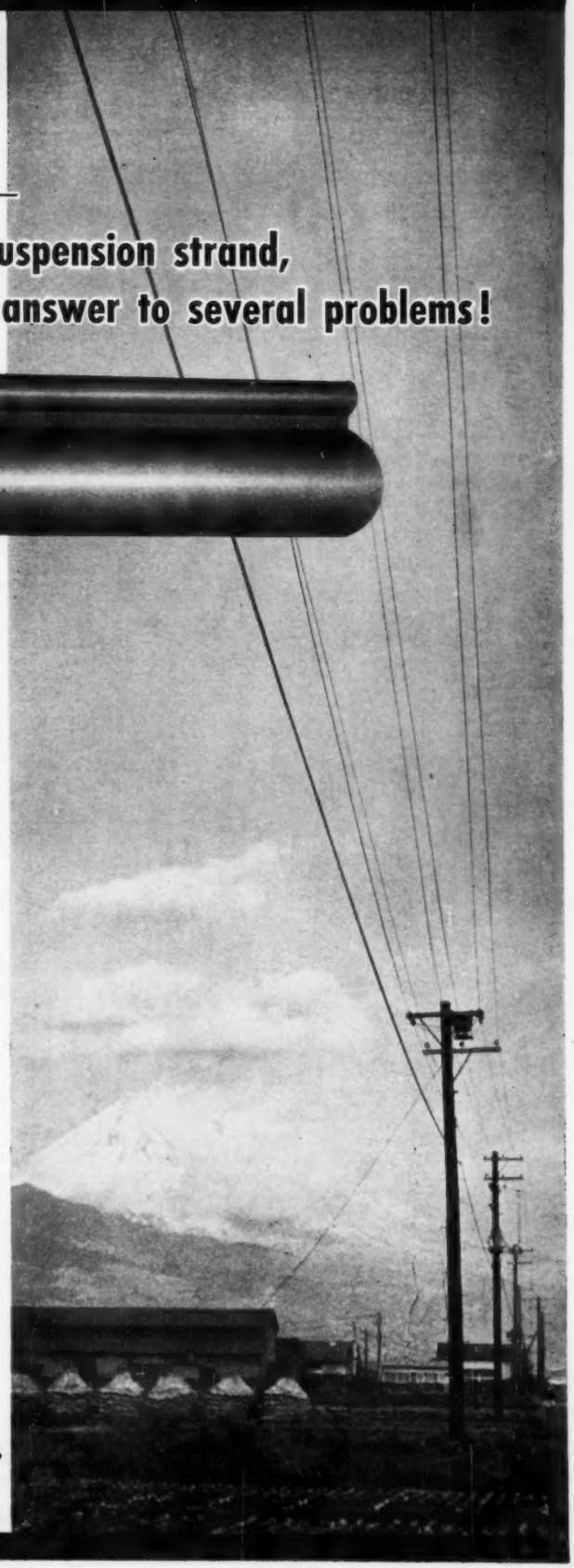
He returned it to Mr. Hendrix, thinking it was Brazoria Company property.

However, the dial number plate, still intact, showed it to be a BElmont telephone number and therefore the property of the Southwestern Bell Telephone Co. at Freeport. The paystation still contained money—only thing missing was the handset.

HITACHI

This is the Gourd-type cable — a new shape that contains a suspension strand, a communication line, and the answer to several problems!





This unique local or exchange area cable developed by Hitachi derives its distinctive "gourd shape" from the polyvinyl chloride sheathing that totally encloses the polyethylene-insulated communication line as well as its parallel suspension strand. It can be used in all the applications of conventional PE-insulated PVC sheathed cable and, in addition, is suitable for installation on steep grades where paper-insulated lead sheathed cable could not be used.

Another notable feature of the gourd-shaped cable is that it dispenses with the need for hangers, making installation easier, cheaper and faster. It can be installed close to buildings and power lines with complete safety (the suspension strand can be grounded to reduce electrostatic induction in the latter instance), retains high transmission qualities under the most trying weather conditions, and successfully withstands attack by salt or airborne chemicals.

Communication Equipments

Hitachi, Ltd.
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Cable Address: "HITACHY" TOKYO

Courts and Commissions

ICC Bars Automatic Raises in General's Between-Cases Plea

The Illinois Commerce Commission, on Oct. 14, has established a far-reaching precedent as to group telephone rate increases between rate cases.

This order stems from an application by General Telephone Co. of Illinois, Bloomington, for authority to increase telephone rates at its Bloomington, Downs, Carlinville and Wyanet exchanges.

General Telephone contended that unless the four communities were advanced to their proper groups, it would be an unlawful preference in favor of those exchanges and a discrimination against the subscribers in the groups to which the four exchanges "properly" belong.

Counsel for the cities argued that the General company's application, as presented, amounted to a general rate case and that the company had not proved the essential elements constituting a legal rate proceeding.

As to General's contention of discrimination, the Illinois commission said:

"It is our opinion that any increase in telephones of 5 to 10 per cent, beyond the maximum number of telephones in a designated group, does not constitute such an unreasonable discrimination, that it cannot be tolerated until the next general rate case."

In its last general rate case, the company was authorized to establish extended area service between Bloomington and Downs and to establish compensatory rates for such service. It has established extended area service; and the commission's order permits it to charge increased rates at Downs, but retains the current Bloomington rates on the grounds that the number of telephones beyond the designated group is not sufficient to warrant an increase.

The commission order further denies the company's proposal to increase rates at Carlinville and Wyanet for the same reason.

The ICC says the case is the first instance of a telephone company seeking a rate increase between rate cases.

In its order, the commission said:

"The paramount issue that is presented herein is this: Should a telephone company be granted general authorization to increase or decrease rates, between rate cases, in those exchanges which increase or retrogress from one group to another?

"While this issue may appear to only concern these four telephone exchanges, it could affect all of the 323 exchanges of the General Telephone Co. of Illinois.

"The order of the commission of July 30, 1959, did not authorize automatic reclassification of exchanges, nor did the order provide for any changes in group rates, between rate cases. The General Telephone Co. of Illinois did issue a general exchange tariff sheet, which provides that an exchange may be moved from one group to another, and that appropriate revision to provide for revised rates will be made in the tariff.

"The General Telephone Co. of Illinois contends that the application of rates for services rendered in an exchange which has grown out of or retrogressed from that particular group constitutes a preference or discrimination which is prohibited by law.

"There is some discrimination existing under any system of group rates based on size of exchange. If reference is made to the grouping of the General Telephone Co. of Illinois shown above, a spread of from 50 to 100 per cent will be found between the lowest number of telephones and the highest number in each group.

"We hesitate to take the positive position that, between rate cases, there should be no change in rates in any telephone exchange; as we can perceive situations where there would be an upgrade in service, or where an exchange would increase or retrogress to such an extent that unreasonable discrimination would result. In such cases, it should not be difficult to obtain a fair and reasonable rate by the usual procedure.

"It is our opinion that an increase in telephones of 5 to 10 per cent, beyond the maximum number of telephones in a designated group, does not constitute such an unreasonable discrimination, that it cannot be tolerated until the next general rate case

"All of the objectors herein have protested the inclusion of extension telephones in determining the exchange grouping. Unquestionably, there is some merit to the argument that extension telephones add little, if anything, to the value of service from the viewpoint of all of the subscribers of an exchange. To the individual, an extension telephone certainly adds value to the service. To attempt to remove the number of extension telephones from the groupings of the 323 exchanges of this system, would entail a new rate case, and such procedure is not considered prudent or reasonable at this time. Further, the record herein does not disclose that there would be substantial change in the groupings, if extension telephones were removed."

Mo. Commission Reconsiders Split Service Ruling

The Missouri Public Service Commission on Oct. 10 ruled that all potential subscribers in the Papinsville territory can get telephone service only from the K.L.M. Telephone Co., Rich Hill (TELEPHONY, June 4, 1960).

The commission in a previous decision on Feb. 3, 1960 had authorized Western Dial Inc. of Eldorado Springs to serve a portion of the territory from its Rockville exchange.

The K.L.M. company appealed this decision to the Cole County Circuit Court, and the court sent the case back to the commission for reconsideration.

Before holding rehearings in July 1961, the commission surveyed the 86 persons in the Papinsville area. Seventy-one replied to its questionnaire, with 43 saying they wanted K.L.M. company service and 26 preferring Western Dial's service.

N. M. High Court Enjoins Lower Court in Bell Tax Case

The New Mexico Supreme Court has taken original jurisdiction in an appeal of a New Mexico Tax Commission order by Mountain States Telephone & Telegraph Co. and the American Telephone & Telegraph Co. (TELEPHONY, Oct. 7).

The high court issued an alternative writ of prohibition preventing the Santa Fe District Court from enforcing an injunction against the tax commission which stopped the commission from certifying 1961 valuations of Mountain States to county assessors.

Mountain States is protesting its 1961 valuation of $47,412,067 and American Telephone & Telegraph is objecting to its 1961 valuation of $10,-998,067.

Both companies declare that the valuations are discriminatory compared with other corporate taxpayers. They obtained injunctions from Judge Luis Armijo in Santa Fe District Court

PLACING STRAND:

ONE OF MANY JOBS SKYWORKER HELPS TO DO IN HALF THE TIME!

SKYWORKER model 1025 — in use by leading telephone companies under the most rigorous operating conditions — is saving an average of 50% of the time required in almost all construction, maintenance and dismantling operations requiring men aloft. / Designed specifically for telephone line work in close liaison with well-known telephone engineers and management men, SKYWORKER model 1025 places men aloft quickly and moves them from one position to another efficiently — from one pole to the next in *seconds*. Fatigue is virtually eliminated and safety records climb. / SKYWORKER slashes man hours per labor unit cost on these jobs aloft: placing strand, cable, multiple wire, cable blocks and guys; re-lashing and re-ringing cable; re-tensioning strand; cable patrol and repair; removing cable, strand and crossarms. / SKYWORKER now offers, as optional equipment for the model 1025, the very best fibre glass boom obtainable: a boom that provides exceptionally high dielectric strength for the protection of *crewmen aloft and on the ground*. / Write or phone today for a complete SKYWORKER model 1025 file including literature, specifications, film and purchase plans.

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barring the commission from certifying valuations to county assessors.

Judges of the district court were ordered to show cause at a hearing set for Oct. 24 why the alternative writ of prohibition should not be made permanent. The tax commission had obtained the alternative writ from the Supreme Court.

The Supreme Court's writ of prohibition was issued against District Judges Samuel Z. Montoya of Santa Fe and James Scarborough of Espanola.

The commission's petition to the high court said that "grave problems involving public finance will result from Mountain States' action in enjoining the commission unless the issues involved are determined with all haste consistent with orderly and well-considered judicial procedure."

Mutual Votes to Sell; Ok NW Bell's Charges in Neb.

Seventy subscribers and stockholders of the Farmers Mutual Telephone Co., Avoca, Neb. voted 48 to 15 on Oct. 12 to sell the company to the Capital Telephone Co., Hickman, Neb.

Specifically, the vote recommended that the governing board of the Farmers Mutual company, through action of its stockholders, accept the offer of purchase from the Capital company. In its offer of May 2, the Capital company agreed to convert the Avoca exchange to dial and to provide direct distance dialing.

Prior to the vote, the group heard recommendations of a committee appointed by the Farmers Mutual company and recommendations by John Bonebright, chief accountant of the Nebraska Railway Commission. It was pointed out that service and facilities of the Farmers Mutual company had deteriorated and that extensive rehabilitation was necessary. It is proposed to finance the modernization program through an REA loan.

•

Also in Nebraska, several applications of the Northwestern Bell Telephone Co. were approved on Oct. 6 by the Nebraska Railway Commission.

A new 400 series of Data-Phone sets will be added. These are suitable for simultaneously conditioning two signals, one from each of two groups of four possible signals at rates up to 20 such combinations per second. A sending set will be provided at $5.00 per month with an installation charge of $15. The receiving set will be offered at $45 per month with an installation charge of $50.

The time limit was eliminated for moving a color set or Princess set from one exchange to another without the application of a second installation charge.

The teletypewriter exchange tariff was revised to provide that the company may discontinue or refuse service when used in an abusive or fraudulent manner. This includes the transmission of a message, or otherwise, to give or obtain information, without payment of the charge applicable for service.

The tariff covering Telpak channels was revised to provide that, subsequent to the establishment of the original Telpak service, additional derived channels up to the capacity of the Telpak channel will be furnished subject to the availability of terminating facilities.

The base rate areas of the Elkhorn, Papillion and Springfield exchanges were revised to omit undeveloped areas and to include new developed areas either outside the city limits or former base rate areas. Included in the Papillion base rate area is a new development at the northern edge of Papillion which is part of the Omaha metropolitan exchange.

The mobile telephone portion of the message toll tariff was revised to apply to mobile stations served from the land radio-telephone station of The Lincoln Telephone & Telegraph Co. at Hastings.

Rates, in order to cover this service, would be increased. Examples of proposed raises are as follows: Four-party residence from $3.64 to $4.25; one-party business from $9.60 to $10.10.

The evolution of the telephone was assembled into a striking display at the Read Department Store in Freeport, Ill. recently. Northwestern Telephone Co., which serves the Freeport area, obtained an assortment of historical telephones dating from approximately 1890 up to and including present-day modern instruments.

The display appeared prominently in one of the store's show windows. Glossy photos of old telephones appeared within the store. Brochures covering the evolution of the dial telephone were placed on a counter for customers to take home.

Two old switchboards were added to complete the antique array.

Considerable interest was created among the many people it attracted. The Northwestern company feels the display pointed up the progress made in instruments and undoubtedly established an appreciation of today's efficient and high-styled telephones.

General of Ind. Asks OK Of Toll Free Service

The General Telephone Co. of Indiana, it was reported on Oct. 7, has asked the Indiana Public Service Commission to eliminate tolls between its Wakarusa exchange and the Nappanee exchange of the Nappanee Telephone Co.

O. Company Shareholders Approve Stock Exchange

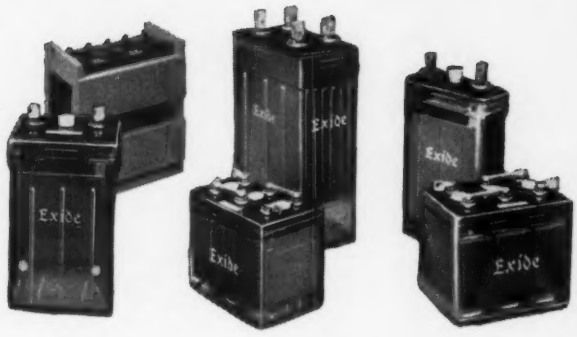
Shareholders of the Ashtabula (O.) Telephone Co. on Oct. 17 voted to accept the offer by Mid-Continent Telephone Corp., Elyria, to exchange 5.3 shares of Mid-Continent common stock for each share of Ashtabula Telephone stock outstanding (TELEPHONY, Sept. 30).

The announcement was made jointly by Howard M. Wright, president of the Ashtabula company and Weldon W. Case, president of Mid-Continent corporation.

Acquisition of the Ashtabula company will involve roughly $7,950,000 in Mid-Continent stock and give Mid-Continent eight affiliated systems with total telephones served rising to over 83,240, it was reported.

Four of these affiliated systems, the Chardon Telephone Co., the Elyria Telephone Co., the Geneva Telephone Co. and the Western Reserve Telephone Co., serve portions of seven northeastern Ohio counties.

Two affiliates, the Citizens Telephone Co. and Home Telephone Co.,



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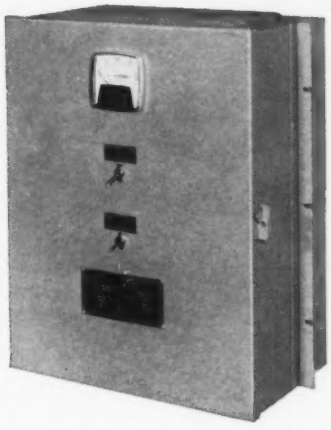

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2—30" Square White Rags
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1—Whisk Broom

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Fairview, serve portions of eight southeastern Ohio counties.

One affiliate, the Kenton Telephone Co., serves part of Hardin County.

New Corporation Seeks Recognition; OK Loan in Ark.

The Union Telephone Co., Junction City, on Oct. 10 asked the Arkansas Public Service Commission to recognize it as a public utility.

The corporation on Oct. 3 had filed articles of incorporation with the Arkansas secretary of state listing Clarke M. and Mary K. Williams of Oak Ridge, La.; Marie Hill Williams of Marion, La., and George L. Lee of Plain Dealing, La., as the incorporators.

The corporation will own and operate exchanges in Junction City and Dodge City, Ark.

The Union company, under the ownership of John Carter of El Dorado, formerly operated several other exchanges which were sold in July 1960 to the Southwestern Bell Telephone Co. (TELEPHONY, July 30, 1960). The Junction City and Dodge City exchanges were retained at that time, but the company sold the Smackover, Calion, Norphlet, Urbana, Mount Holly, Chidester and Village exchanges.

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Also in Arkansas, the commission on Oct. 11 authorized Mountain View Telephone Co. to borrow $93,700 (TELEPHONY, Sept. 23). The company now serves Mountain View and Pleasant Grove. It plans to provide service to Fifty-Six, Timbo, Fox and Rushing.

Hearings on Merger, Rates, Financing Requests in Neb.

On Oct. 18, the commission gave its permission to the Clarks Telephone Co. to purchase the properties and assets of the Staplehurst Telephone Co. The company plans to obtain an REA loan and convert the Staplehurst exchange to dial operation within two years. Magneto service is now provided to 250 subscribers. Present rates will remain in effect until the dial conversion. The Clarks company now operates 330 stations at Clarks and 260 at Ulysses, both dial exchanges.

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The commission also set Oct. 31 as the date of a hearing on a request of the Nebraska Central Telephone Co., Gibbon, for authority to adjust its rates and charges.

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The Nebraska commission has scheduled a hearing on Oct. 31 on a request by J. E. Nelson of Lincoln and Paul D. Dunlap of Exeter to sell their stock in the Wisner and Beemer exchanges of the Cuming County Telephone Co., Wisner, to the Continental Telephone Company, Inc., of St. Louis, Mo.

•

On Dec. 14, the commission will hear the request of the Cornhusker State Telephone Co., Inc., Hay Springs, to issue additional common

stock to its parent company, the Continental Telephone Co., Inc., St. Louis.

Authorize $369,700 N.Y. Financing for Improvement

The New York Public Service Commission on Oct. 15 authorized Finger Lakes Telephone Corp., Marcellus, to issue and sell $215,000 principal amount of 5½ per cent, 25-year first mortgage bonds; 750 shares of $100 par value 5 per cent preferred stock; 1,034 additional shares of no par value common stock; and to issue a three-year 5¼ per cent $28,000 promissory note.

The anticipated $369,700 it will obtain from the transactions are to be used to retire outstanding obligations incurred for plant improvements.

The company serves about 2,400 subscribers through offices in Marcellus and Rose Hill, affording toll-free service also to Syracuse under New York Telephone Co.'s Metroplan for that area.

General of Florida Registers Bond Issue With SEC

General Telephone Co. of Florida, Tampa, has registered 15 million dollars worth of 30-year first mortgage bonds with the Securities & Exchange Commission, it was reported on Oct. 13.

The bonds are to be offered for public sale through underwriters headed by Paine, Webber, Jackson & Curtis and Stone & Webster Securities Corp.

The company plans to use 11.3 million dollars of the proceeds to repay bank loans. The balance will be applied to the company's 1961 construction program.

Petition for Rate Schedule For Alert Systems in Ark.

The Arkansas Public Service Commission, it was reported on Oct. 10, has received a request from the United Telephone Co. of Arkansas, Leachville, to set up a separate rate schedule for dial telephone alerting systems.

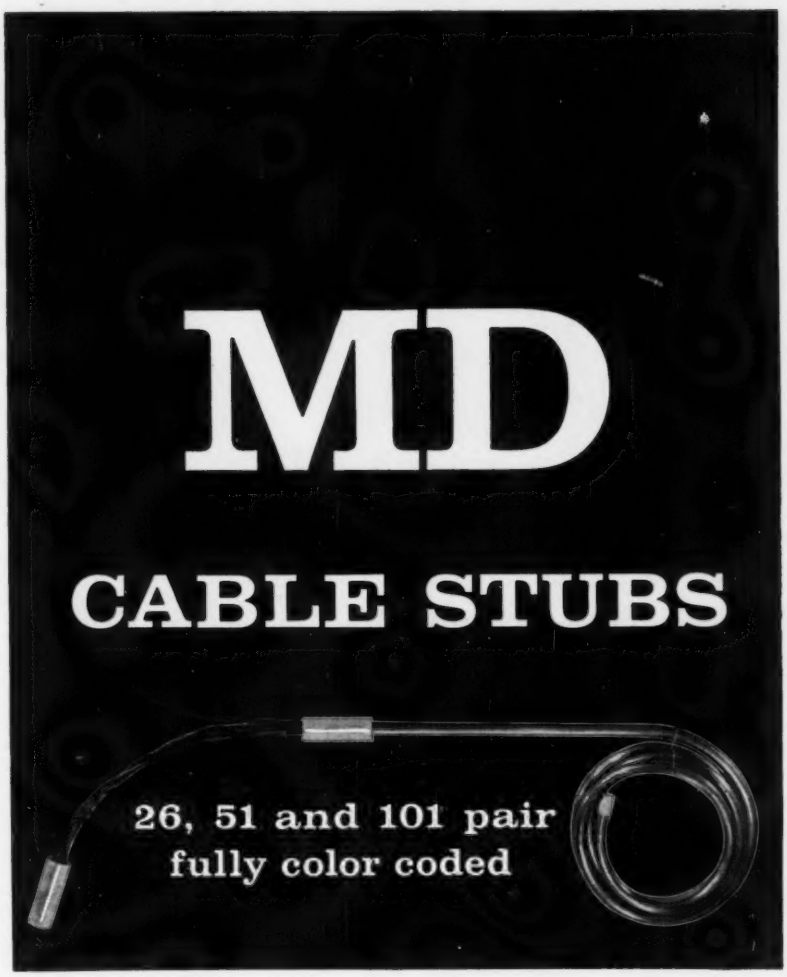
The company proposed a $10-a-month rate for a basic system with six telephone stations, the type which is being used in small communities for alerting volunteer firemen in their homes and businesses.

Approve Ore. Sale, Operating Agreement, Stock Issue

The Oregon Public Utility Commissioner on Oct. 17 authorized the Mt. Hood Telephone Co., Dufur, to sell its property to the North-State Telephone Co.

North-State, a newly authorized corporation, was granted permission to borrow $221,000 from the Rural Electrification Administration to pay for the purchase and for the conversion of the Dufur exchange to dial.

North-State was also allowed to enter into an operating and management agreement with the Oregon Telephone



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Corp., Mt. Vernon. Oregon will "operate, maintain and keep in good condition the telephone system of North-State in accordance with policies established by North-State's board of directors and usual standards of efficient operation and maintenance. . ." the commissioner reported.

The Mt. Hood company serves 240 stations through its Dufur exchange. After conversion, 60 new subscribers will be added.

The Oregon company serves 740 stations. It is an affiliated interest of the North-State company having two officers and directors in common.

The commissioner stated that: "Due to North-State's high percentage of debt (97 per cent on a pro forma basis) to total capital, Oregon has agreed that no additional salaries will be paid to personnel of Oregon for the services performed for North-State under the operation and maintenance agreement until the equity position of North-State improves."

The commissioner also ruled that "North-State Telephone Co. shall not pay any dividends on its common stock until approved by the commissioner."

Ask Loan Authorization To Expand Ark. System

The Magazine Telephone Exchange on Oct. 16 asked the Arkansas Public Service Commission for authority to borrow $30,000 from General Dynamics/Electronics to expand its system.

The new facilities proposed by the Magazine company would enable it to serve an estimated additional 100 subscribers.

Two Companies Get Raises At Four Texas Exchanges

The Gulf States Telephone Co., Tyler, Tex., has been granted an increase at its Athens exchange, it was announced on Oct. 4.

The new rates are to be effective on the first billing date following Nov. 1.

Present, proposed, and approved rates are as follows:

Business	*Present*	*Proposed*	*Approved*
One-party	$7.80	$14.00	$8.90
Two-party	6.90	12.00	7.80
Four-party	6.25	10.00	7.15
Residence			
One-party	4.40	7.80	4.60
Two-party	3.75	6 25	4 00
Four-party	3.45	5.00	3.75

•

Also in Texas, the Southwestern States Telephone Co., Brownwood, Tex., has announced increases at three dial exchanges effective Oct. 21.

Old and new rates are as follows:

Reeves, 107 stations:		
Business	*Old*	*New*
One-party	$7.50	$10.00
Two-party	6.00	8.50
Rural	6.25	7.00
Residence		
One-party	4.70	5.25
Two-party	3.75	4.25
Four-party	3.20	3.45
Rural	5.25	5.25

The above schedule of increases became effective at Oberlin on Oct. 21 with the exception of rural business and residence rates. These increases are as follows: Business, from $5.50 to $7.00; residence from $4.50 to $5.25. Oberlin serves 375 stations.

Lexington, 284 stations,		
Business		
One-party	$6.55	$7.85
Two-party	5.00	6.00
Residence		
One-party	4.70	5.65
Two-party	3.45	4.15
Four-party	2.80	3.35

Telephone Financing Bulk Of Increase in Utility Offerings

Financing by the investor-owned public utility industry in the first nine months of 1961 amounted to $3,413,269,000, an increase of 35 per cent over the $2,525,738,000 in the similar 1960 period, according to an analysis by the management consulting division of Ebasco Services Inc.

Telephone company financings accounted for the bulk of the increase, totaling $1,542,011,000 compared with $631,740,000 in the first nine months of 1960. Gas utility offerings also increased to $791,168,000 from $583,166,000. Money raised by the electric companies, on the other hand, was $1,047,490,000, down $257,787,000 from the $1,305,277,000 raised during the corresponding period last year.

Common stock sales, paced by telephone offerings, accounted for the major part of the rise in over-all financing. Sales of common for the first three quarters of 1961 increased by close to a billion dollars, rising to $1,342,584,000 from $350,873,000 in the corresponding period a year earlier. Preferred stock financings also climbed to $223,875,000 from $179,917,000. Debt offerings, meanwhile, declined to $1,846,810,000 from $1,994,948,000.

The Ebasco study also shows that $2,921,735,000 or 85.6 per cent, of the total represented new money. Refunding amounted to $489,934,000.

Set Aside Sale Order in Neb.

At the request of the applicants, the Nebraska Railway Commission on Oct. 18 vacated and set aside its order of Aug. 23 authorizing the Cuming County Telephone Co., Wisner, to purchase the assets of the Hamilton County Telephone Co., Aurora. (TELEPHONY, Sept. 9).

Place Ohio Company's Bonds

Northern Ohio Telephone Co., Bellevue, is reported to have placed 3.5 million dollars of first mortgage bonds. The private placement of the 4⅞ per cent series, 30-year-bonds, was handled by Harriman Ripley & Co., Inc.

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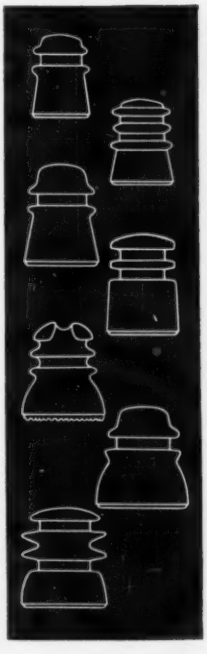

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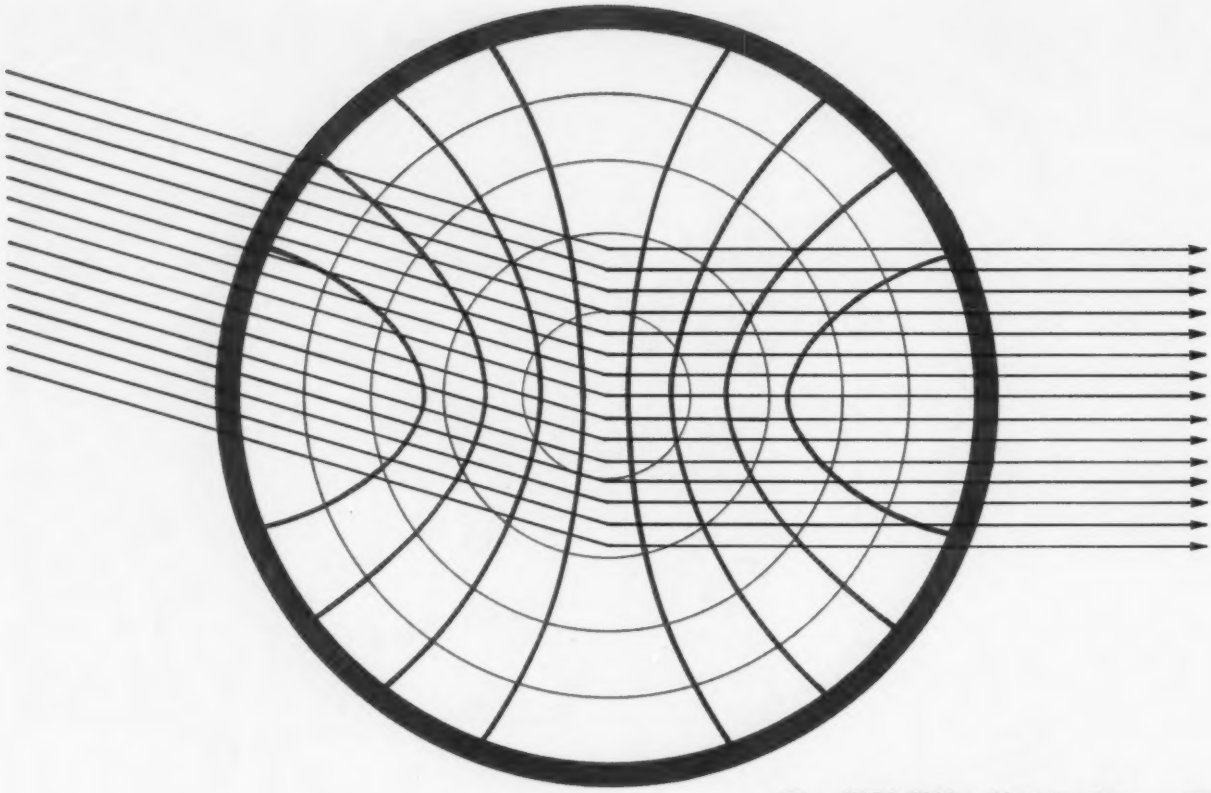

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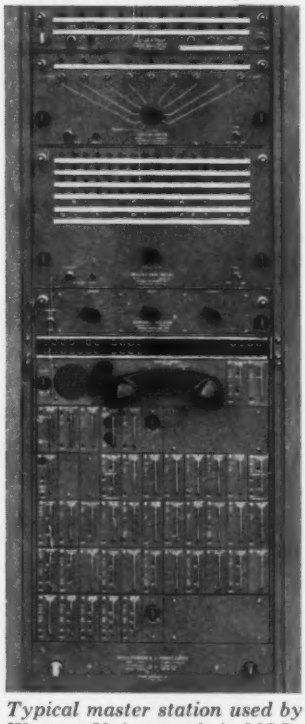
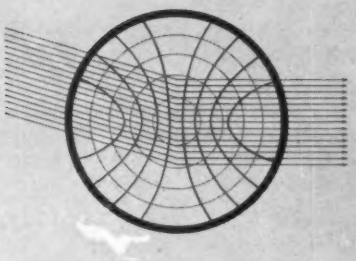


Typical master station used by Western Union on their MLD-4B Transcontinental Microwave System.



MARC EQUIPMENT HAS BEEN PURCHASED BY THE FOLLOWING:

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Hawaiian Telephone Company
Western Electric Company
Lenkurt Electric Company
Illinois Bell Telephone Company
General Telephone Company of Illinois
U. S. Air Force
Chicago and Northwestern Railroad
Atchison, Topeka, and Santa Fe Railroad
Collins Radio Company
United Telephone Company of Indiana
Raytheon Company
ITT — Kellogg
Union Oil Company
Sun Oil Company
Humble Oil Company
Edgerton, Germeshausen & Grier
American Machine and Foundry
Southern Pacific Company
Naval Ordnance Test Center
Aerojet General Corporation
David Taylor Model Basin, USN
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Bristol Company
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Eglin Air Force Base, USAF
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Collins Radio Company
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Philco Corporation

Bell Answers FCC on Private Line Rate Cut

THE BELL System on Oct. 16 took issue with a preliminary finding of the Federal Communications Commission in its six-year-old investigation of rates charged users of private telephone and teletypewriter networks (TELEPHONY, Sept. 30).

The Bell companies said the FCC took a "slide-rule" approach to rate-making when it issued an "initial decision" in July of this year that called for decreases in private line telephone rates, increases in private line teletypewriter rates and changes in the rate structures of both services.

In a brief filed with the FCC as the proceeding approached the period when a "final decision" was to be made the Bell companies said in part:

Fragmentizes Rate Making

"(The initial decision) . . . would fragmentize the rate-making process into minute segments. It would fix rates for particular services and their components almost solely on the basis of allocated costs. To the greatest extent possible, it insists that all services and all their components earn at the same level. It substitutes a mechanistic "slide-rule" approach for judgment based on experience. It almost totally disregards all other factors which should be applied in the fixing of rates, including the major adverse effects of the rates prescribed on many existing users of the services.

"In the few and relatively minor instances where it departs from cost, the initial decision would arbitrarily, without support in the record, reject the rates established or proposed by the carriers and substitute others."

When complying with the FCC order on Sept. 15, the telephone companies noted, they reported, that the rate revision would mean an increase of 2.1 per cent for commercial customers; a decrease of 7.8 per cent for government agencies using these services and a 19 per cent increase in charges to press customers.

Wide Variation in Effects

"There is a wide variation in the effects on individual customers in each of the three classifications shown," the companies said when they complied with the rate revisions. "For example, decreases of more than 25 per cent and increases in the order of 150 per cent would be experienced by individual customers in each of three groups."

In further support of these earlier views, the companies on Oct. 16 argued that:

"The initial decision would require

Pictured with officials of the Commonwealth Telephone Co., Dallas, Pa., is a visitor from Egypt, second from left, Abdel-Al Ahmed Sawaby. Mr. Sawaby, chief inspector of the accounts section, Telecommunication Organization, Cairo, will spend four weeks studying the Commonwealth company's accounting system. Posing with him are, left to right: Col. H. H. Butler, Commonwealth company vice president and general manager; Sen. Andrew J. Sordoni, chairman of the board; and Jack Sordoni, president. Commonwealth has been participating in the technical assistance programs for three years—first hosting a South Korean and then an Ethiopian telephone man. These exchanges, conducted under the Federal Communications Commission's direction, are a part of the United Nations' Fellowship Program. Mr. Sawaby will spend three months in the United States and three months in the United Kingdom, before returning to Egypt.

further substantial reductions in private line telephone rates. Placing such a low ceiling on the rates for telephone service, which is in a position to earn well, would further narrow the differential between telephone grade and telegraph-grade services, thus making it almost impossible for the carriers to develop the telegraph-grade services to their fullest potential and to earn adequately on them.

"On the telegraph side, while better earnings are certainly in order, the rate changes prescribed are made without regard to the extremely heavy impact on existing customers and the effect on the markets or services. Strict adherence to the cost rule leaves the carriers no opportunity to apply their judgment and experience to the problem of moderating the immediate impact and safeguarding the future market."

Criticizes Major Points

The Bell System brief also criticized three major points raised in the initial decision. These included:

(a) The level of earnings on investment in the private line services cited by the FCC as "proper."

(b) The investment base used by the FCC in its finding.

(c) The commission's views about the prices charged the Bell operating companies by its manufacturing and supply unit, the Western Electric Co.

In rebuttal of the first point, the Bell System brief stated that the "heart" of the initial decision was the finding by the FCC that the proper earnings level for private line services should be 7.2 per cent for AT&T and 9 per cent for Western Union.

"The decision treats the private line services of the two carriers as substantially identical and requires the same rates for the services," the brief said. "The findings of rate of return factors enumerated, other than cost of capital, are equally applicable to both carriers. The entire difference of the 'proper level of earnings' . . . rests on the findings of a cost of capital of 6 per cent to 6½ per cent for AT&T as contrasted with 7½ per cent for Western Union."

Wide Spread Not Supported

The brief said the record did not support the finding that a "wide spread" existed between the capital costs of the two carriers.

"There is not a word of testimony concerning the capital costs of the private line services of either carrier, or, for that matter, of the overall capital costs of either carrier," the brief declared.

As to the rate base, the companies said:

"In arriving at the earnings or rate base, the basic principle, accepted by the initial decision . . . is this: The investors are entitled to a fair return on the value of their entire investment dedicated to rendering service in the public interest.

"Lip service only, however, was paid to this principle in the initial decision arriving at the rate base. Instead, by reliance on so-called accounting regulations or theories and alleged failures of proof, the initial decision calculates a 'bare bones' rate base which is a far cry from the total investment devoted to the private line services . . . "

Western Electric Prices

On the third point, concerning Western Electric prices, the brief added:

". . . the comments in the initial decision on Western Electric are neither carefully considered nor based on the record."

The Bell companies said that in spite of increases in price levels since World War II, the rates for private line services were generally lower than 20 years ago. The companies said that during this period, customers were able to achieve economies "which have more than offset the costs they incur for private line services.

"Private line services are playing an important role in new breakthroughs in the technology of businesses and they have been a major factor in increasing productivity in both businesses and the government," the companies said.

Additional Points

In their 83-page brief, the Bell companies made these additional points about the FCC's initial decision:

(1) Its use of fully allocated costs as the almost exclusive determinant for pricing was "contrary to sound principles of economics."

(2) It did not properly reflect the relative "value of service" in private line offerings.

(3) It gave insufficient recognition to the proper relationships between telephone-grade and telegraph-grade services.

(4) It failed to give proper consideration to customer impact.

(5) Its approach had already been rejected as both impractical and unsound by commissions and courts.

(6) Its detailed prescription of rates "for virtually every important unit of service results, as a practical matter, in depriving the common carrier, which must live with the consequences of its rate schedules, of the authority to establish rates and of all discretion in their design."

Placed in Strait Jacket

"At every turn, the initial decision places the common carriers in a strait jacket both as regards the rate level and rate structure," the brief stated.

In support of this latter remark, the brief referred to the abolishment of clock-hour schedules for teletypewriter services. Previously, customers could order service at a minimum of eight

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hours daily, from one to seven days a week. Under the initial decision, all customers must be charged for 24-hour service, seven days a week.

"This arbitrary action seriously violates three fundamental rate-making principles, namely, that the rates should be designed to meet the requirements of the customer, that they should be designed to stimulate the development of the service, and that changes in the rates should be designed to avoid serious impact on the customer," the brief added.

The brief noted that the clock-hour rate schedules had been in effect for 40 years for press customers and about 20 years for other customers.

Previous Proposals Mentioned

The Bell companies urged the FCC to "give appropriate consideration" to the proposals they made about three years ago.

"These represented the companies' best judgment taking into account all of the factors which affect the making of rates, including the customer impact of the interim changes," the brief said. ". . . A fundamental objective in the formulation of rates, of particular importance in the field of private line services, is to have a tariff which is as simple as practicable so that it will be easily understood by the customer and easy to administer."

The companies have said on previous occasions that this attempt to simplify and "streamline" the complex rate structures was "a major step in the right direction."

In addition to the brief, the Bell companies filed 157 "exceptions" to the FCC's initial decision.

L. A. Communications Managers Form Occupational Group

A new communications association has been formed in Los Angeles. Named the Tele-Communications Association, its membership consists of the communications managers from firms with multiple plant operations and complex communications networks.

G. H. Sutton, communications technical advisor at North American Aviation, Inc.,'s general offices, has been elected president for 1961-62. He reports that dinner meetings have been scheduled for the second Tuesday of each month and they will include member presentations and guest speakers from the communication industry.

Recent technological advances in the data transmission, facsimile, and radio fields have resulted in increased emphasis within industry on telecommunications problems. The Tele-Communications Association will provide those working in these fields a source of information and group cooperation.

Requests for information may be directed to the association secretary, L. G. Cahill, Librascope Division, General Precision, Inc., 808 Western Ave., Glendale 1, Cal.

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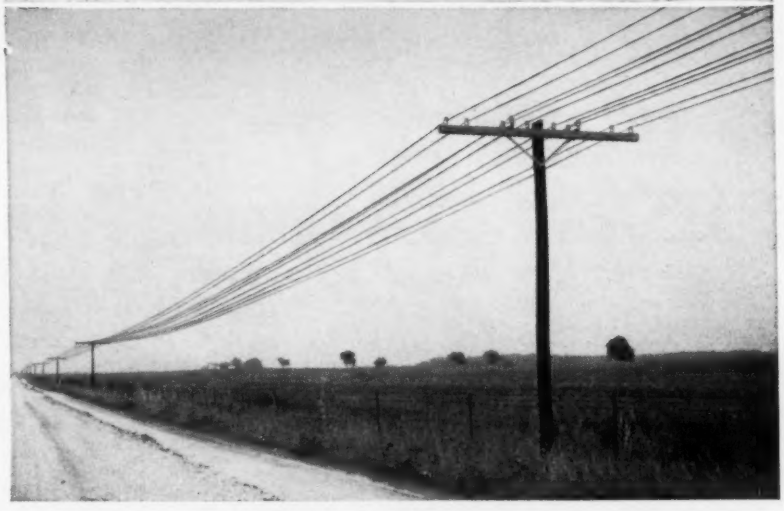
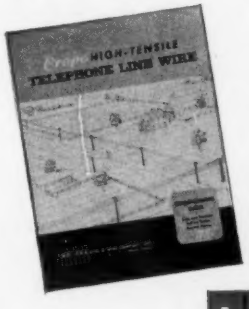
The excellent telephonic transmission characteristics of *Crapo* HTL-135 make practical subscriber loops of 14 to 15 miles with normal voltages and equipment. Longer loops are possible where higher voltages and more sensitive telephone sets are employed. For dependable, long-span, low cost rural lines, specify *Crapo* HTL-135.



HERE'S PROOF OF DEPENDABILITY



The Crapo HTL-135 in this typical rural line of 300-foot spans was subjected to two heavy ice storms within 14 months. This photo shows the line, without resagging, three months after the second storm.

Write for Manual TM-59 containing complete engineering data!

Crapo HTL-135

INDIANA STEEL & WIRE CO., INC.
Muncie, Indiana

REA Loans To 13 Telephone Borrowers Total $5,092,000

WITH $5,092,000 IN telephone loans released during the period from Oct. 2 to 13, the Rural Electrification Administration is helping telephone systems in 10 states to provide new or improved service to 7,901 subscribers, as follows:

Skyline Telephone Membership Corp., West Jefferson, N. C., $751,000; Oct. 6.

This loan will help the company to furnish initial service to 894 subscribers in its service area; construct a new headquarters building outside the city limits of West Jefferson; add facilities which will provide a higher grade of service for the existing subscribers; and install radio-telephone communications equipment for system maintenance.

REA loans to this borrower will assist it in bringing new and improved telephone service to 3,507 subscribers. The six exchanges of the system now furnish dial service to approximately 2,575 subscribers.

•

Southwest Arkansas Telephone Cooperative, Texarkana; $468,000, Oct. 9.

These funds will aid in providing facilities to serve 820 new subscribers in the present service area, in constructing new headquarters outside of the city limits south of Texarkana, and in completing the authorized system. Facilities required to serve the new subscribers, include expanded central office equipment. The borrower also plans to add facilities which will permit both its Fouke and its Trigg exchanges to call the Texarkana exchange of General Telepnone Co. without toll charge.

REA loans to this borrower will assist in making possible new and improved service to 2,107 subscribers in Arkansas and Texas. The seven exchanges of the system now furnish dial service to approximately 1,050 subscribers.

•

Rib Lake (Wis.) Telephone Co.; $38,000; Oct. 9.

Funds will help to furnish initial service for 69 subscribers. Facilities required to provide the additional service include expanded central office facilities. A portion of the loan will be used to construct a garage-warehouse building for the system.

REA loans will aid this borrower in bringing improved service to 581 subscribers. Approximately 510 subscribers now receive dial service through the Rib Lake exchange.

•

Volcano (Cal.) Telephone Co.; $84,000; Oct. 13.

This loan will assist the company to serve 155 new subscribers in the service area, install facilities to provide a higher grade of service for existing subscribers, and complete the authorized system. Facilities required to serve the additional subscribers include expanded central office equipment.

The two REA loans to this company will aid it in bringing new and improved service to 980 subscribers. The three exchanges of the system now furnish dial service to approximately 770 subscribers.

•

Plant Telephone & Power Co., Tifton, Ga.; $954,000; Oct. 13.

Funds will help to furnish initial service for 960 subscribers and to improve service for 127 subscribers in the company's service area. In order to provide the additional service the borrower proposes to replace the existing dial facilities at both Omega and Pinehurst with new and larger dial office buildings.

The loan will also be used to help complete the authorized system, to finance an addition to the present headquarters building at Tifton, and to provide facilities for mobile dial radio service for 15 subscribers, and for system maintenance.

REA loans to this company will assist it in bringing new and improved service to 3,383 subscribers. The seven exchanges of the system now furnish dial service to approximately 2,190 subscribers.

•

Dixie Telephone Co., Claxton, Ga.; $320,000; Oct. 13.

This loan together with funds from prior loans, will be used to help furnish initial service to 443 subscribers and to install facilities which will provide a higher grade of service for existing subscribers. Facilities required to serve the additional subscribers include expanded central office equipment in the Alamo, Rincon and Springfield exchanges.

REA loans to this borrower will aid in making possible new and improved service to 2,836 subscribers. The seven exchanges of the system now furnish dial service to approximately 1,850 subscribers.

•

Camden (Ind.) Telephone Co.; $432,000; Oct. 13.

Proceeds will assist the company in providing service for 580 subscribers and in furnishing initial service to 254 subscribers. The borrower proposes to acquire the facilities of the Deer Creek Telephone Co. and the Burrows Telephone Co. These systems now furnish magneto service to the sub-

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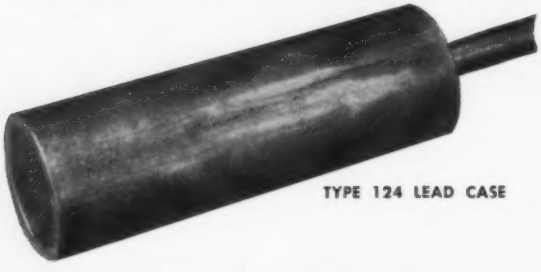

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scribers who will receive improved service as a result of this loan.

New dial central offices will be constructed at Deer Creek and Burrows. REA loans to this borrower will help make possible new and improved service to 1,501 subscribers. The completed system will consist of three exchanges.

•

Clear Valley Telephone Co., Clearwater, Minn.; $172,000; Oct. 13.

Funds will help the company to serve 317 new subscribers in the present service area. The borrower proposes to create a new exchange and construct a new dial office at Clearwater, and enlarge the present dial facilities at Clear Lake.

REA loans to this borrower will assist it in bringing new and improved service to 711 subscribers. The Clear Lake Exchange is now furnishing dial service to approximately 400 subscribers plus switching service to 24 families who own their own lines.

•

Valley Rural Telephone Cooperative Association, Glasgow, Mont.; $235,000; Oct. 13.

This loan will aid the Cooperative in furnishing initial service for 643 subscribers in the U. S. Air Force Base housing area now served by the borrower. Facilities required include expanded central office equipment in the borrower's Air Base and Frazer exchanges.

REA loans to this borrower will help it to bring new and improved service to 1,999 subscribers. The five exchanges of the system are now furnishing dial service to approximately 1,325 subscribers.

•

Valley Telephone Cooperative, Raymondville, Tex.; $250,000; Oct. 13.

Funds will assist the company to furnish initial service to 287 subscribers in the present service area. A large proportion of the new subscribers will be concentrated in the McCook exchange. The borrower proposes to divide this exchange area into two parts and to construct a new dial central office at San Isidro in the northern portion.

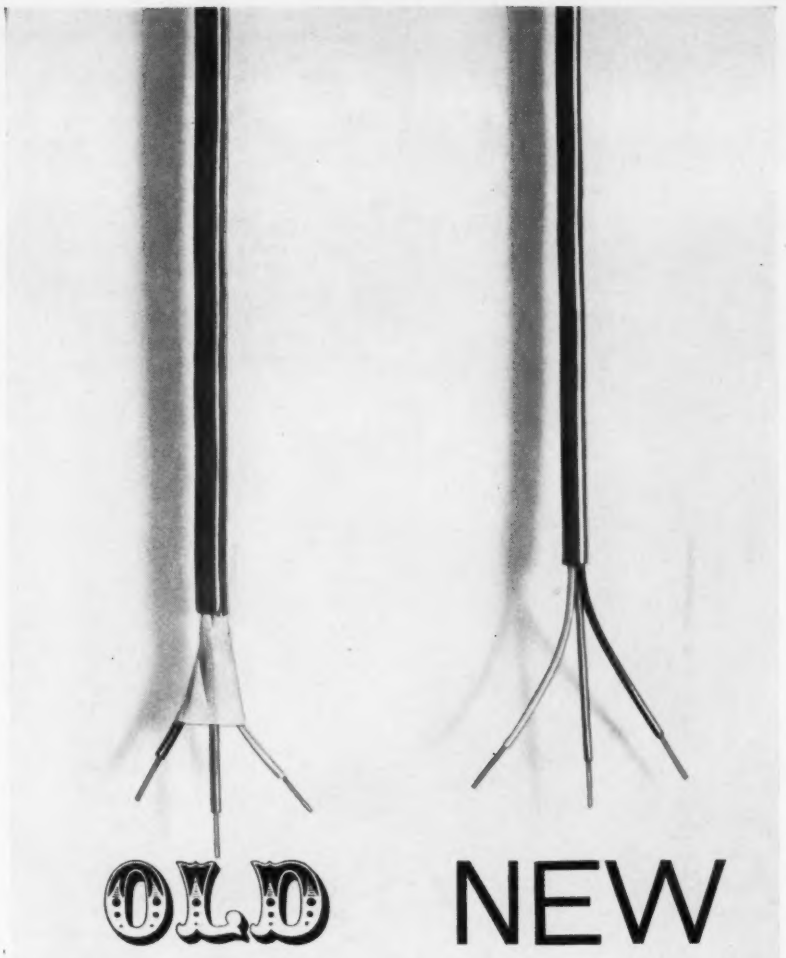
REA loans to this company will help it to bring new and improved service to 846 subscribers through six exchanges, four of which now provide dial service for approximately 380 subscribers.

•

Palo Pinto (Tex.) Telephone Co.; $480,000; Oct. 13.

Proceeds will assist Palo Pinto to improve service for 480 subscribers and to furnish initial service to 256 subscribers. The subscribers who will get improved service now receive dial and magneto service from the Graford-Perrin Telephone Co. of Palo Pinto, which the borrower has recently acquired.

The Palo Pinto company will use



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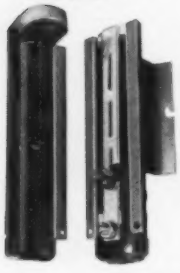

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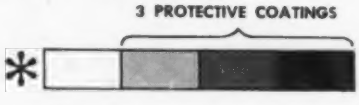

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the loan funds to help replace the acquired central office facilities at Graford, Perrin and Possum Kingdom Lake with new dial office buildings. Subscribers on the borrower's present Possum Kingdom Dam exchange will also be served from the new Possum Kingdom exchange. A portion of these funds will be used to expand the Palo Pinto commercial office facilities.

REA loans to this borrower will aid in making possible new and improved service to 1,593 subscribers. Four of the proposed six exchanges now furnish dial service to approximately 490 subscribers.

•

East Peninsula Telephone Co., Quilcene, Wash.; $372,000; Oct. 13.

This loan will help to improve service for 434 subscribers and to furnish initial service for 146 subscribers. The new borrower's system consists of central offices at Center, Gardner, Jupiter City and Quilcene which now furnish limited dial service.

A new dial central office will replace the existing facilities at Quilcene, and the Center and Jupiter City exchanges will be improved and expanded. The Gardner exchange is currently being converted to dial operation. No REA loan funds are being provided for use in the Gardner area. A portion of these loan funds will be used to refinance the borrower's existing indebtedness.

Maurice R. Hull is both president and manager of the East Peninsula company.

•

Crandon (Wis.) Telephone Co.; $536,000; Oct. 13.

Funds will aid Crandon to improve service for 580 subscribers and to furnish initial service to 456 subscribers. This new borrower of REA funds now provides common battery and magneto service to the existing subscribers. New dial central offices will be constructed at Argonne and at Crandon. The present central office building at Crandon will be remodeled for commercial office use.

The borrower proposes to furnish service without toll charge between its two exchange areas. Similar service is also planned between each exchange and the Town of Laona served by General Telephone Co. of Wisconsin.

Gordon L. Hobbs is president and manager of the Crandon company.

NASA Tells Syncom Satellite Design and Operation

Design of the SYNCOM communication satellite is nearly complete, the National Aeronautics & Space Administration (NASA) announced on Oct. 8 in disclosing preliminary details of the satellite's construction and operation.

Syncom is an experimental active repeater communication satellite to be placed in a 24-hour orbit. It is to be launched from the Atlantic Missile Range at Cape Canaveral, Fla., in late 1962. Syncom will be used to relay telephone and telegraph communications over near-hemispheric distances. Early Syncom will not have the capability to relay television signals.

These are some of the details NASA released on Syncom:

It will be cylindrical, 25 inches high, 28 inches in diameter, and weigh about 55 pounds, excluding an attached solid propellant rocket motor. This motor, called the apogee motor, will be used to inject the spacecraft into a circular near-synchronous orbit when the Syncom reaches apogee (22,300 miles) of the trajectory into which it is boosted by the three-stage Delta vehicle.

In addition, 10 small vernier rockets will be used to further correct the final velocity.

Two nitrogen jets will be employed to attach and maintain required orientation and position. One jet is located on one end of the spacecraft about 12 inches to one side and thrusts parallel with the spin axis. The other jet is located in the side of the cylinder, and thrusts perpendicular to the spin axis.

Solar sensing cells, located on the side of the cylinder, provide informa-

Artist's concept of Syncom, a NASA experimental communication satellite which, late in 1962, will be placed in a 22,300-mile orbit synchronous with the earth's rotation, to relay telephone and telegraph messages.

tion via telemetry, in "real time," from which necessary adjustments in orbiting and orienting the satellite will be made by command from the ground.

The cylindrical shell will carry an array of 3960 solar cells to supply power and charge nickel-cadmium batteries which will power the satellite's instrumentation when it is not in sunlight. The system is designed to give the Syncom a "working" lifetime of one year, supplying 20 watts of power at 27.5 volts.

There are duplicate telemetry and communication systems (including command systems), NASA stated. This is to provide a "spare" in the event one system does not operate properly. The communications system operates on a power of 2 watts.

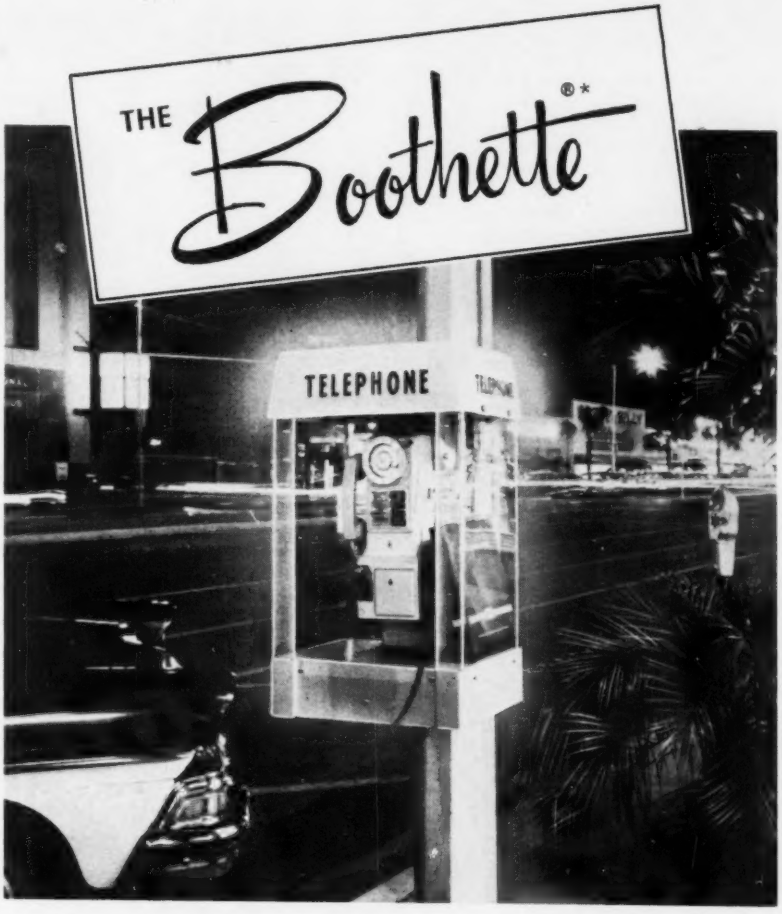
The satellite will have two antenna systems. A slotted array antenna, projecting from one end of the spacecraft, will receive and transmit the telephone and telegraph communications. Telemetry will be transmitted via four whip antennas. These are attached at the opposite end of the spacecraft, projecting outward 90 degrees apart in turnstile fashion.

Communications signals, telephone and telegraph, will be sent to the Syncom on a frequency of 7500 mc. The signal will be amplified by a lightweight traveling wave tube and retransmitted to the ground on 1850 mc. Telemetry will be transmitted on 136 mc. In addition to relaying "real time"data on the altitude of the satellite, information will be telemetered relating to the solar cells, the communication systems, jet reaction system, and spacecraft temperature.

According to NASA, the Syncom will be stabilized in orbit by spinning it like a gyroscope. Its spin axis will be perpendicular to the plane of its orbit and generally will be north-south in relation to the earth. Spinning, with the cylindrical part of the spacecraft always facing earth, the satellite will transmit a circular beam—somewhat like a pancake in shape—with its "edge" always toward the earth.

Placed in 22,300-mile orbits synchronous with the rotation of earth, the first series of Syncom satellites will not be in stationary orbits, but will move in an elongated figure-8 pattern 33 degrees north and south of the equator over a given longitude over the Atlantic Ocean during its 24-hour period. To achieve this orbit, properly orient the satellite, and maintain its attitude, a special control system will be employed which was developed by the Hughes Aircraft Co. for a lightweight spacecraft.

The Syncom control system, NASA said, will be employed after the Delta has spun up to about 160 rpm and boosted the spacecraft to synchronous altitude. As presently programmed, this should occur off the southeast coast of Africa about 5½ hours after launch. The apogee rocket motor in the satellite then will be fired to give the vehicle sufficient velocity to place it in a nearly circular synchronous orbit.



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The angular velocity of the satellite will be slightly less than the earth's rotation, and the Syncom will drift back westward to a specified longitude over the Atlantic Ocean. At that point, a sufficient number of the vernier rockets will be fired to achieve near-synchronism with the earth.

Proper orientation of the satellite will then be achieved by precessing the satellite using the nitrogen gas jet in the base of the spacecraft. The second gas jet can then be employed to provide precise adjustment of the orbit. These control jets can be employed during the Syncom's life to correct changes in the orientation or orbit should they occur.

On Aug. 11, 1961 NASA announced that the Hughes Company, Culver City, Cal., would build at least three Syncom satellites under contract to Goddard Space Flight Center (TELEPHONY, Aug. 26, p. 19).

The Department of Defense is participating in Project Syncom by furnishing Project Advent ground facilities. The U. S. Army Advent Management Agency, in cooperation with NASA, will conduct the communications experiments.

Project Syncom is under the overall direction of the NASA Headquarters Office of Applications. Leonard Jaffe is chief of NASA's Communication Satellite Programs. The project manager at Goddard is Alton Jones.

B.C. Telephone Transmits ETV From Classroom to Convention

One of the largest Canadian audiences to witness closed-circuit educational television—some 650 persons—was present in Vancouver, B.C., on Oct. 4 during a demonstration of ETV by the British Columbia Telephone Co.

(An article titled: "Educational TV and the Independent Company," by Frank S. Barnes Jr. appeared in the Oct. 21 issue of TELEPHONY, *page 58.)*

Production of electrical energy was taught to 18 Grade 9 pupils in a classroom set up on a stage in front of delegates to the B.C. School Trustees Association convention. About 500 trustees were on the convention floor, while the overflow audience witnessed the demonstration on television sets placed in a separate salon of the convention hotel.

The company's 85-minute participation in the convention included a panel discussion of ETV by educators from British Columbia and the United States. Among the audience were the provincial minister of education, Hon. Leslie Peterson; deputy minister, Dr. J. F. K. English; and staff members of the University of British Columbia.

Television in this demonstration was used to make the lesson more meaningful and to bring into the class material that would otherwise be impractical.

G. F. Garrett, special studies supervisor of B.C. Telephone Co., told the audience the company has followed the progress of educational television and that the program was presented to assist in an intelligent evaluation of ETV.

Through cooperation of the Vancouver School Board, two teachers were assigned for the program, one selected as the classroom teacher, and the second as the studio television teacher. A temporary studio was set up in a city high school science classroom, and telephone company closed-circuit television facilities were installed to transmit the TV portion of the lesson two and one-half miles to the convention and classroom in downtown Vancouver.

Two television sets served the pupils, whose surroundings included regular school desks, two portable blackboards, a teacher's desk, and four microphones to permit the audience to hear the participation by the pupils and classroom teacher.

Ten television sets were used for the delegates in the convention hall and an additional four sets served the overflow audience.

MST&T Wins 1st Prize for Employe Information Media

Mountain States Telephone & Telegraph Co. won first place out of 400 entrants in a national contest for publications which informed employes about the company's business operations in 1960.

The contest was sponsored by *The Score*, an employer-employe communications bulletin published in Chicago by Newcomb and Sammons, industrial communications consultants.

Mountain States won the award for its annual shareholders report, which is also distributed to employes; for a six-page double-fold report in *The Monitor*, employe magazine, and for a pocket-sized finger-tip fact booklet for employes, with localized state information on the company's eight-state operation.

Neb., Colo., S. D. Personnel Trained in Stromberg School

Independent telephone men from 19 companies were awarded certificates of achievement at the recent Stromberg-Carlson Carrier school in Sidney, Neb. The two-day course was designed to train operating company personnel in basic carrier theory and application.

Engineers from the Kansas City branch of General Dynamics/Telecommunication served as instructors for the course.

Independent telephone men attending included:

From *Nebraska:* W. L. Perrett and Buzz Delinger of Hyannis Telephone Co.; Rodney Chrisp of the Home Telephone Co.; Gary Chrisp and Pete Kraft of Chrisp Telephone Exchange, Paxton; Charles Brandes of Maywood Telephone Co.; Victor Blackman and Bob Ernst of the Hamilton County

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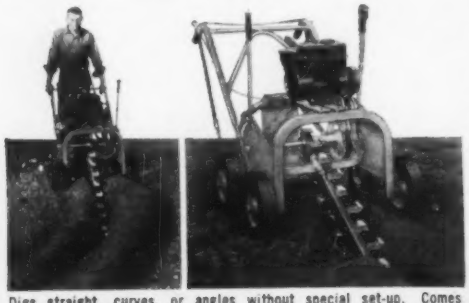

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These men representing 19 Nebraska, Colorado and South Dakota Independent telephone operating companies participated in recent two-day Stromberg-Carlson Carrier school held in Sidney, Neb.

Telephone Co., Aurora; Harry Roblyer and Dale Warwick of Rodeo Telephone Membership Corp., Burwell.

Jerry Warfield, Chuck Williams, Marvin Carmody, and Jack Berger of United Telephone Co. of the West, Scottsbluff; Leo and Duane Hartman of the Hartman Telephone Exchange, Danbury; Earl Nelson, Nebraska Telephone Association, Lincoln.

Howard Rasmussen, Northeast Nebraska Telephone Co., South Sioux City; C. J. Carley and Warren Hathaway of Dalton Telephone Exchange; Derrill Ammerman of the Lodgepole Telephone Co.; and Herman Miller of Gurley Telephone Co.

From *Colorado:* Lynn Hendrickson and M. B. Harshman of the Wiggins Telephone Association; Kermit Scheel of Haxtun Telephone Co.; Daryl Kropp of Phillips County Telephone Co., Holyoke; Bill Berry and Pete Visser of Delta County Cooperative Telephone Co., Paonia; and M. D. Morgan and Don McLain of the Eagle Valley Telephone Co., Eagle.

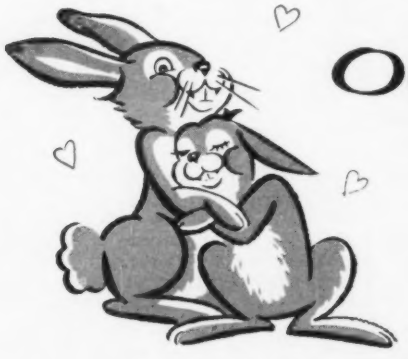
From *South Dakota:* Lowell Fritsche and Harold Lang of the Black Hills Telephone Co., Custer.

Northeast Electronics Names Buckeye as Representative

The Northeast Electronics Corp., Concord, N. H., has announced the appointment of The Buckeye Telephone & Supply Co., 1250 Kinnear Rd., Columbus, O., as sales representatives for Northeast Electronics' telephone test equipment.

The Buckeye firm will handle Northeast's products in the following states: Minnesota, Iowa, Illinois, Wisconsin, Michigan, Indiana, Ohio, Kentucky, West Virginia, and western Pennsylvania from and including Harrisburg. Complete technical information and demonstrations of equipment will be readily available from this firm. The Buckeye firm will be Northeast's sales representative to all Independent telephone companies except the General Telephone System.

E. H. Bartelink, president of Northeast Electronics Corporation, commenting on the appointment, stated, "The rapid growth in the acceptance of our telephone test equipment nationwide has made this move desirable to provide better service to our customers."



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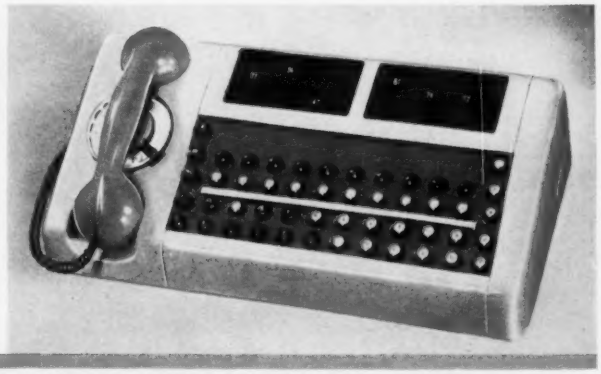

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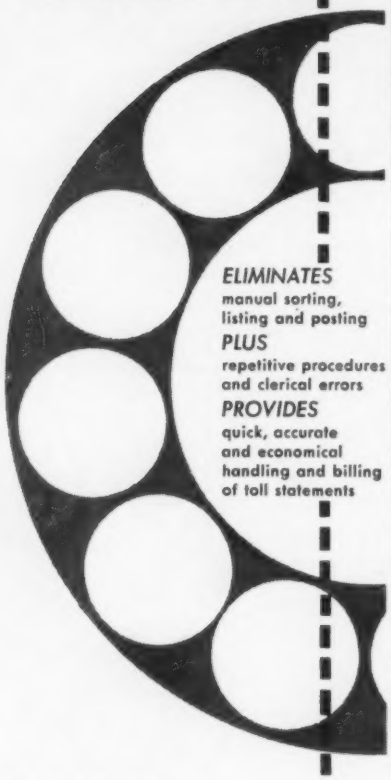

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HURRICANE CARLA'S HEAVY TOLL

Concluded from page 38

building. Replacements were sent on Wednesday, Sept. 13, by truck from San Angelo.

Telephone plant damage to General's territory began in the Ingleside-Corpus Christi area and extended to the Baytown-Dickenson area.

Temporary service was restored by the company in most areas within several days; however, permanent repairs will not be completed for some time.

Service Beyond Call

Tales of service beyond the call rendered by General Telephone people were legion.

At Port Lavaca, Chief Operator Margaret Shamel, her 17-year-old daughter Carol, acting chief operator Myrtle Mashborn, part-time operator Jackie Johnson, district commercial manager Henry Bowman, plant supervisor M. E. Watson, cable splicer Sam Sensabaugh, installer-repairman Otto Thyssen and fieldman Doland Norton stayed on the job during the night Monday even though the eye of Carla passed over the town.

Palacios central office repairman Dan Barber stayed with the new CDO at Palacios while his wife rode out the storm in Waco. He continued "picking off finders", until he didn't have 25 left, then early Monday during a lull in the storm, surveyed Palacios and the other exchanges in the area. He kept things under control, even though he had to move his bedding to the top of lockers in a storage room with an escape hatch to the roof of the building.

Independents' Damages

Independents in the Gulf Coast area (excluding General of the Southwest) had thousands of telephones out and considerable outside plant damage. However, restoration of service took place within a week, with 80 per cent in five days.

Among Independent companies affected were the following (exchanges involved and number of telephones out of service are listed.):

Company	Exchanges	No. of Telephones Out
Garrison Telephone Co.	West Columbia	300
Brazoria Telephone Co.	Brazoria	500
Sweeney-Old Ocean Telephone Co.	Sweeney, Old Ocean	250
Newgulf Telephone Co.	Newgulf	50
Glenflora Telephone Co.	Glenflora	100
Fort Bend Telephone Co.	Damon, Katy	250
Sugar Land Telephone Co.	Sugar Land	350
Chambers County Telephone Co.	Winnie	900
Tenaha Telephone Co.	High Island, Gilchrist	290
La Ward Telephone Co.	La Ward, Port Alto	215
Mustang Telephone Co.	Port Aransas	50

True to their tradition, Independent company people kept to their posts.

For example, in Brazoria, the town was practically shut down for 36 hours. However, Charles Hendrix, owner of the Brazoria company, his wife and their assistants stuck by the job. They kept the telephone channels open to Sweeney where an ambulance was available. Several calls were sent to Sweeney during the emergency requesting ambulance service.

Every house in the town of Port Alto, which is served by the LaWard Telephone Co., was moved over. All 58 telephones in the town were out. Communications with the outside did not exist, but Rolla Johnson of Palestine Telephone Co. and Al Rucker got together a gang, and came from 200 miles away to restore service.

Ready to help out was Dee Cole of Quinlan, who along with Tommie Smelser of Bogata and Charles Cole, filled a pickup with odds and ends and headed for Port Aransas.

Once there, they found the local man could handle the situation. They then headed back to the town of La Ward, where extensive damage had been done.

Many other Independents offered helping hands to their fellows in a true "spirit of service."

Hedges Representing Alpha In Microwave Sales, Engineering

The appointment of Vernon Louis Hedges as microwave sales and engineering representative for the Microwave Systems Division of Alpha Corp. was recently announced by Ray Willard sales manager of the division.

Collins Radio Co. Microwave Sales, Systems Engineering, Contract Administration and Customer Service were recently integrated into Alpha Corp., a division of Collins.

Mr. Hedges will headquarter at Galion, O., and will represent Alpha microwave activities in Ohio, Pennsylvania, Virginia, West Virginia and New York, except New York City.

Prior to his association with Alpha, Mr. Hedges was engaged in sales and engineering work throughout the United States for North Electric Co., having joined that company in 1955.

For the past three years, he has

conducted symposiums on carrier equipment applications and maintenance.

He served, too, for twelve years in the communications department of the Pennsylvania Railroad in Chicago.

Educated at Chicago Technical College and the National Radio Institute, Washington, D.C., Mr. Hedges has specialized in industrial and common carrier applications of microwave equipment.

MAYME HONORED

Continued from page 24

sas, District of Columbia, Nebraska, Texas, Washington-Oregon, Wisconsin, Hawaii, and Missouri-Kansas. The state of California is in process of forming a chapter, which should be completed by the year-end.

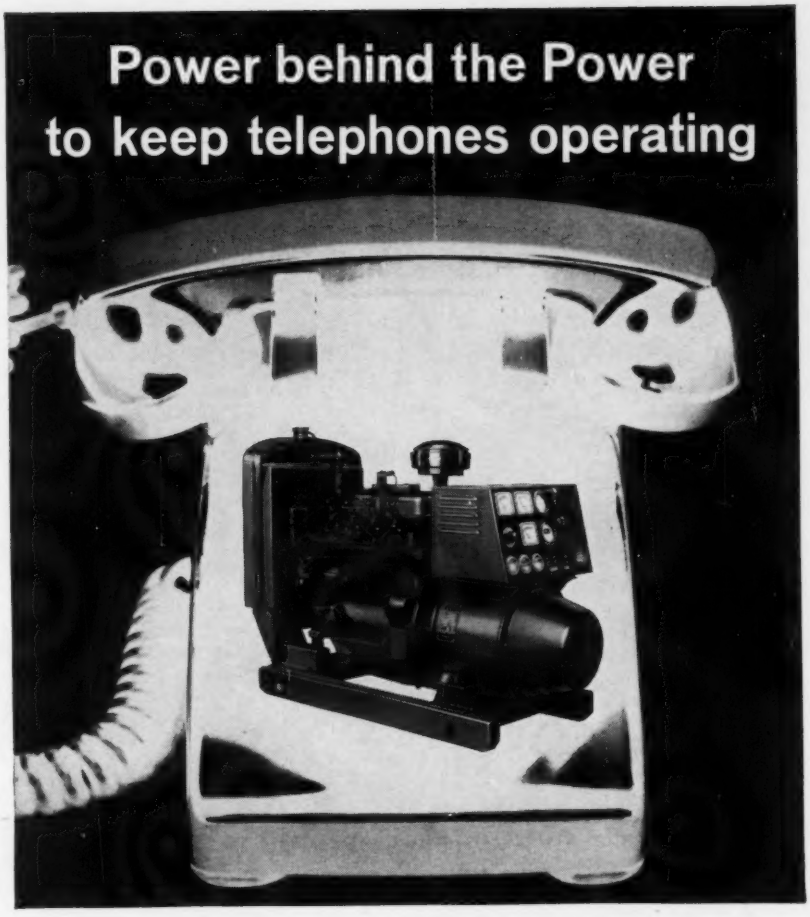
Mrs. Workman also commended the association's assistant secretary-treasurer, Sophia Davis, who will succeed Mrs. Workman as executive secretary-treasurer, for her "Diligent, efficient work and loyal cooperation . . ."

In closing her report, Mrs. Workman said:

"It is customary to sing a "Swan Song" when one retires but, according to Webster, a "Swan Song" is the beautiful song the male swan sings just before he dies, therefore, your executive secretary is not qualified to follow this procedure.

"However, since this is her last opportunity to address you as your executive secretary, she does wish to express her heartfelt appreciation to all the members of the Independent Telephone Pioneer Association for their friendship and cooperation through the years, to which she is indebted for any success she may have achieved; to the officers and directors of your association and to the officers and directors of chapters and clubs, particularly to the secretaries of these organizations with whom she has been in close contact through the years; to TELEPHONY and Telephone Engineer staffs, and particularly to Pete Reno and John G. Reynolds for giving so generously of their time and effort to publicize your association and for the personal courtesies extended to your executive secretary; to the associate members for their generous support and to my loyal assistant and co-worker, Sophia K. Davis.

"There is one other person to whom I wish to pay tribute. He was not a member of your association but he was one of its most ardent supporters. He donated his service from the day I became your executive secretary in 1947 until he became ill in 1951. When your executive secretary would leave to attend the annual meeting of members, his parting words always were, "Bring home a lot of new members!" I am referring to my late husband, Virgil Workman, God bless him! And God bless you, my friends, and be



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F. K. Devoe, center, in charge of generator procurement for A.T.&T., tours Kohler Engine and Electric Plant with Fred Nelson of Kohler Co.

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assured my service to your association and to you has truly been a labor of love."

A resolution commemorating the deaths of Independent Pioneers during the past 12 months was adopted at the meeting. Those whose deaths have been reported include:

Raymond Addison of Stuttgart, Ark.; Cora Ahart of Pattonsburg, Mo.; Beulah B. Blush of Geneva, O.; L. H. Boyd of Milledgeville, Ill.; W. H. Brown of Conneaut, O.; R. M. Carman of Defiance, O.; C. G. Cherry of Lundy's Lane, Pa.; G. W. Coffin of Council Grove, Kan.; Ray Dalton of Everett, Wash.; W. H. Dean of White Salmon, Wash.;

Elmer Dock of Amherst, O.; J. Z. Driver of Mobile, Ala.; G. F. Evert of Ridgway, Pa.; F. R. Fahnestock of Bloomington, Ill.; R. G. Faulhaber of Glendale, Cal.; C. W. Ferry of Marion, Wis.; R. D. Fuller of Bemus Point, N.Y.; H. J. Grossman of Butler, Pa.; H. H. Haley of Toledo, O.; W. L. Hall of Erie, Pa.; H. H. Hanlen of Marietta, Pa.;

E. L. Haye of Anchorage, Alaska; W. J. Helm of Hebron, Ill.; L. E. Hurtz, Omaha, Neb.; G. W. Jahn, Lincoln, Neb.; E. L. Klingel of St. Paul, Minn.; Sara M. Klingman of Mifflinburg, Pa.; H. A. Kurtz of Rochester, N. Y.; J. M. Lindsey of Riverside, Ill.; Maude Maguire of Stoneboro, Pa.; P. M. McCullough of Denver, Colo.; P. R. McDaniel of Jefferson City, Mo.

Dorothy J. McNulty of Chicago, Ill.; W. J. Melchers of Owosso, Mich.; H. R. Miller of Richland, Pa.; G. E. Morse of Riverside, Ill.; Walter Neave of Augusta, Ky.; G. S. O'Connor of Laurel, Md.; J. E. Ostline of Chicago, Ill.; G. S. Ott of Rice Lake, Wis.; A. Z. Patterson of Kansas City, Mo.; Etta Pollock of Butler, Pa.; A. W. Pyrke of New York, N.Y.;

Margaret E. Reitzel, Columbia, Pa.; G. C. Richert of Silver Spring, Md.; A. L. Robb of Electra, Tex.; C. B. Russell of Columbus, O.; Katherine Saden, Fredonia, N.Y.; D. A. Sattler of Santa Barbara, Cal.; W. W. Shoop of Vandergrift, Pa.; J. A. Simpson of Higginsville, Mo.; J. V. Smith of Pittsburgh, Pa.; C. W. Snyder of Ft. Wayne, Ind.; O. R. Speer of Campbellsville, Ky.;

N. E. Steele of North Washington, Pa.; L. V. Stinson of Dayton, O.; J. K. Stoltzfus of Morgantown, Pa.; E. B. Stone of Menlo Park, Cal.; J. E. Trower of Mannford, Okla.; J. H. Watkins of Chillicothe, O.; Henry Allan Whitcomb of Fredonia, Kan.; and F. B. Williams of Henry, Ill.

The Pioneers elected three new directors: H. R. Bollinger of Waconia, Minn.; Wesley H. Loomis III of Des Plaines, Ill., and F. G. Winters of Houston, Tex.

Other directors are Ray Blain of Falls Church, Va.; J. N. Johnson of Fort Myers, Fla.; C. C. Pearce of Riceville, Ia.; Bertha B. Blair of Ephrata, Pa.; H. A. Barnhart of Rochester, Ind. and C. E. McCormick of Erie, Pa.

The directors elected the following Pioneer officers: President, Mr. Blain; vice presidents, Mr. McCormick and Mrs. Workman, and executive secretary-treasurer, Sophia K. Davis of Springfield, Ill.

The Pioneers also elected the following as members of the association's advisory committee:

Richard D. Crowe of Dos Palos, Cal.; Franklin H. Van Doren of Stamford, Conn.; Donald R. Edge of Washington, D. C.; Edward Sears of Cocoa Beach, Fla.; Howard Bersted of Mt. Prospect, Ill.; Clara M. Buechlein of Jasper, Ind.; M. S. Kerr of Sac City, Ia.; Jack T. Shriner of Kansas City, Kan.; Marcella Schwaller of Jefferson City, Mo.; Ruth I. Dutch of Elyria, O.; William S. Howard of Millington, Tenn.; Stanley A. Owens of Manassas, Va.; Norman A. Howerton of Ilwaco, Wash.; and Margaret K. Burgi of Monroe, Wis.

Study AIEE, IRE Merger Into International Body

First steps to consider consolidation of the two largest engineering societies in the world—the American Institute of Electrical Engineers and the Institute of Radio Engineers—have been taken, it was announced on Oct. 23. In a resolution passed by the boards of directors of both societies, a committee has been formed to determine the feasibility and form of such consolidation.

The proposed new organization would be international in scope and involve 150,000 engineers, scientists, educators and industrialists.

The announcement was made jointly by Lloyd V. Berkner, president of the Institute of Radio Engineers and Warren H. Chase, president of the American Institute of Electrical Engineers. The resolution was first approved by the board of directors of IRE in New York on Oct. 18. Approval of the board of AIEE was given at the close of the fall general meeting of that organization in Detroit on Oct. 20.

The resolution pointed out that "the advancement of the theory and practice of electrical and radio engineering and the educational and scientific objective of both Institutes may be better served by merger or consolidation . . . into one organization in which all present members would be included, and in which they would enjoy the same rights and privileges now conferred on them by their separate organizations."

The resolution further stated that the boards of directors of the two Institutes deem it advisable, in accordance with the stated objectives of each society, "to move actively toward the consolidation of the activities and organization" of the IRE and AIEE, "by consolidation or otherwise, provided that the legal and operational prob-

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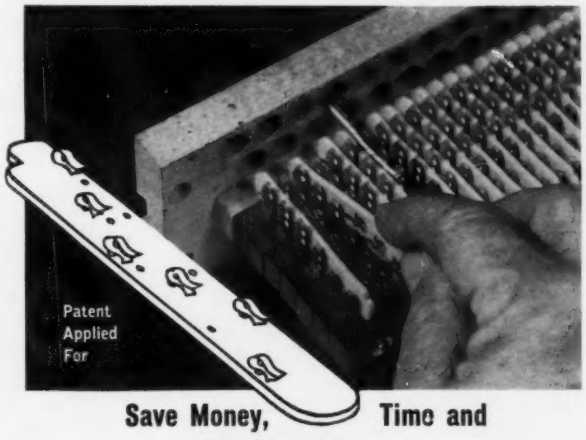

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lems incident to such consolidation can be satisfactorily resolved."

Both societies appointed members to the committee "which shall be authorized and directed to undertake such studies as they shall deem necessary and appropriate to determine the feasibility, practicability and form of such consolidation." The committee is to submit a report to the boards of both societies not later than Feb. 15, 1962, for their approval "with a view to submission to a vote of the memberships of the two institutes and consummation, if so approved, by Jan 1, 1963."

The committee also was authorized to prepare a proposed constitution and bylaws "in consultation with representatives" of both societies.

AIEE was organized in 1884 and has approximately 70,000 members from the United States and Canada. IRE, organized in 1912, has a total membership of 91,000 and is international in scope. Approximately 6,000 members now belong to both societies.

Both organizations have headquarters in New York; AIEE in the new United Engineering Center, 345 E. 47th St., and IRE at 1 E. 79th St.

Report Russ Phonevision

Moscow radio reports, the Associated Press disclosed, that a videotelephone trunk line was to go into service on Oct. 15 between Moscow, Leningrad and Kiev so that callers can see whom they're talking to and vice versa.

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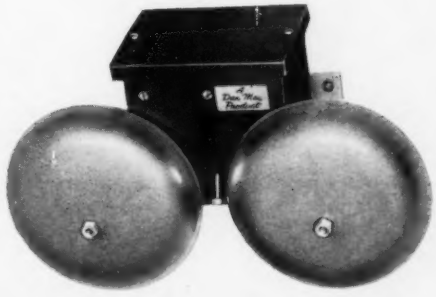

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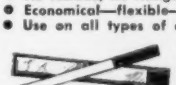

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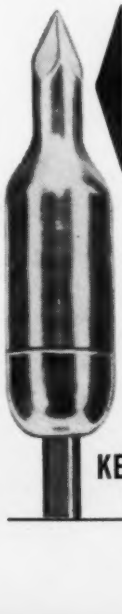

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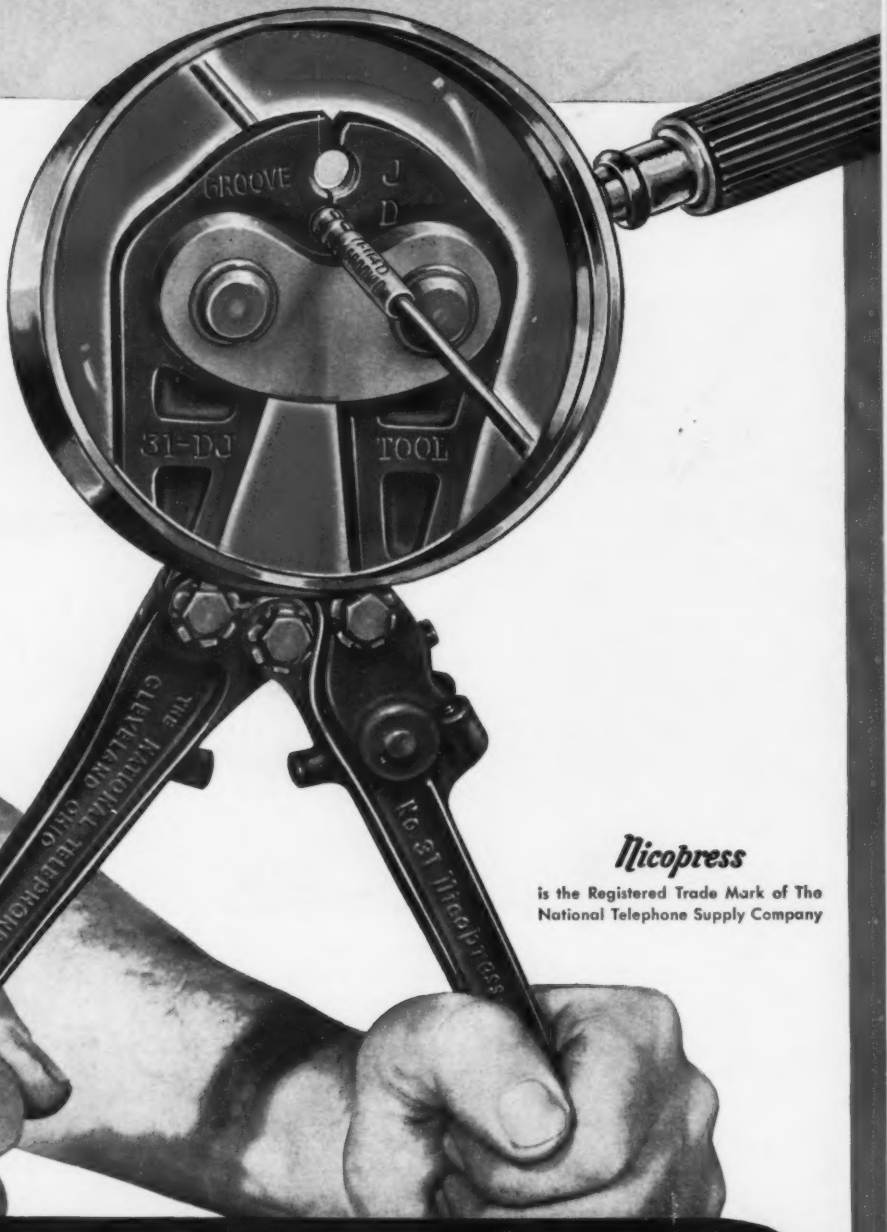

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